

1-15-2013

# Implementing Product Stewardship in Maine

Maine Department of Environmental Protection

Follow this and additional works at: [http://statedocs.maine.gov/dep\\_docs](http://statedocs.maine.gov/dep_docs)

---

## Recommended Citation

Maine Department of Environmental Protection, "Implementing Product Stewardship in Maine" (2013). *Environmental Protection Documents*. Paper 34.

[http://statedocs.maine.gov/dep\\_docs/34](http://statedocs.maine.gov/dep_docs/34)

This Document is brought to you for free and open access by the Environmental Protection at Maine State Documents. It has been accepted for inclusion in Environmental Protection Documents by an authorized administrator of Maine State Documents. For more information, please contact [statedocs@maine.gov](mailto:statedocs@maine.gov).

**Report to the Joint Standing Committee on Environment and Natural  
Resources  
126<sup>th</sup> Legislature, First Session**

# **Implementing Product Stewardship in Maine**

## ***January 2013***

---

Contact: George MacDonald, Director, Division of Sustainability  
Phone: (207) 287-2870



**MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
17 State House Station | Augusta, Maine 04330-0017  
[www.maine.gov/dep](http://www.maine.gov/dep)

## Executive Summary

The Department of Environmental Protection's current Product Stewardship Program has recently become part of the newly created Sustainability Division. With an increased focused, comprehensive and coordinated approach to the environmental stewardship and management of the materials and resources we utilize, the department is recommending that the current product stewardship "framework" law found at 38 MRSA § 1772-1775 be amended to create a program with greater efficiency and effectiveness.

The statutory language located in Appendix A of this report proposes baseline requirements for the creation of product stewardship plans and reporting requirements for producers or product stewardship organizations. With this amended framework language, new products and product categories can be assimilated into the program with greater ease.

While there has been some success with the program's current products and product categories, it is evident that a piecemeal approach to regulation is not optimal. In 2010, the original framework language was enacted by P.L. 2009, ch. 516 because it was recognized that having a framework law is a more holistic approach. However, that framework law did not go far enough. If the goal of the framework approach is to allow one law to establish policy for product stewardship and extended producer responsibility, while creating a road to address multiple products over time, it seems that one law should establish more than criteria for identifying candidate product or product categories for inclusion into a product stewardship program. It should also provide basic program components, requirements for a product stewardship plan, the timeframes for submission of plans once a product is identified, and the department's obligations for reviewing those plans.

In order to effectively mesh the statutory language proposed in Appendix A into the current statutory scheme, the department is proposing additional amendments, the language of which is in Appendix B.

Lastly, Appendices C and D, provide updates regarding existing product stewardship programs, as well as the recommendation to repeal those provision in 38 MRSA § 2143, that mandate collection of cellular telephones by any retailer that sells cellular telephones. The department is recommending repeal of this mandate due to the widespread availability of collection locations for cell phone recycling and their projected continued positive value as a market commodity. This report will not identify any new product or product categories as candidates for a product stewardship program.

The creation of this expanded framework approach is comprehensive, yet flexible because it creates baseline requirements, while providing industry with a fair amount of discretion in how to implement their program. The recommendations contained within this report further supports a program that allows for the flexible, producer-led reduction, reuse and recycling of products.

## I. Introduction

The product stewardship programs, at the Department of Environmental Protection, is defined at 38 MRSA § 1771(5), as “producer’s taking responsibility for managing and reducing the life cycle impacts of the producer’s product, from product design to end-of-life management,” in order to support the State’s solid waste management hierarchy (38 MRSA § 2101). This hierarchy prioritizes the management of solid waste, through various actions, from reduction in waste at the source to land disposal of waste. Product stewardship, which also may be referred to as “extended producer responsibility,” shifts the cost of the end-of-life management of products from municipalities and taxpayers to producers and the consumers who purchase the products that are part of the program.

In 2010, P.L. 2009, ch. 516, was enacted to implement a “product stewardship framework” law. While this framework law found at 38 MRSA §§1771-1775, provides a standard process for the development of product stewardship legislation, and allows for interested parties to provide comment for consideration by the Joint Standing Committee on Environment and Natural Resources, which may introduce legislation based on department recommendations and comments, it is not a fully identified comprehensive framework.

From 1992 to 2009, Maine enacted five product-specific laws which require producers to establish programs to recover their products from Maine’s waste stream and ensure proper handling and recycling, recovery, or disposal of these products. These products include:

- Dry mercuric oxide and rechargeable batteries (38 MRSA §§ 2165 & 2166);
- Mercury auto switches (38 MRSA §1665-A);
- Electronic waste (38 MRSA §1610);
- Mercury thermostats (38 MRSA §1665-B); and
- Mercury lamps (38 MRSA §1672).

Although originally driven by the goal of reducing the release of toxics (e.g., mercury, lead) into Maine’s environment, product stewardship programs are now recognized as achieving additional environmental and economic benefits, such as, job creation, business innovation, increasing recycling, conserving materials and resources, reducing energy use, and lowering costs to local governments. Updates on these existing programs are provided in Appendix C.

Each product-specific law varies in what is required of producers from the collection of the product to reporting requirements. This inconsistency from product to product makes the program less efficient, increases the difficulty of reporting, and makes assessing the success of these programs more complicated, and potentially less accurate. By developing this amended framework for the product stewardship program, the department will have the ability to operate a successful program with greater efficiency, and which will benefit all parties involved.

With the creation of the Sustainability Division at the department, there is now the ability to provide an improved, focused approach to the product stewardship program. As part of the department’s commitment to public and environmental health, the Sustainability Division is charged with the creation and implementation of a comprehensive and coordinated approach to the environmental stewardship and management of the materials and resources we utilize. A true framework law

would have better defined roles for both the producer and the department, which can be utilized regardless of the product or product category. The department contends that the creation of a robust framework law will lead to greater efficiency in the implementation of the program, and make it easier to assimilate new products or product categories into the program.

## **II. Proposed Framework Language**

Proposed statutory language for a comprehensive framework is located in Appendix A. This language will better define the responsibility of a producer of a product or product category that is part of the product stewardship program. These recommendations are also being made to better define the department's role in this process. This comprehensive framework will create uniform standards and requirements for product stewardship plans, programs and reporting requirements.

The department is recommending reallocating the current 38 MRSA § 1773 to 38 MRSA § 1772(5), and putting this new framework language in section 1773. These recommended amendments can be found at Appendix B.

## **III. Other Statutory Changes**

In order to further the goal of creating a consistent program, the department is recommending that its reporting requirement for legislative reports be an all-inclusive, singular report, as opposed to product specific reports with differing statutory deadlines. Additionally, the department is recommending an amendment to the deadline for reporting found at 38 MRSA § 1772(1). With the required 30 day comment period, and the fact that the department is seeking to tie all reporting on the various programs to this reporting requirement, a later due date would provide adequate time to put all these pieces together. Therefore, the department would recommend amending the language to change the current deadline of January 15<sup>th</sup> to February 15<sup>th</sup>.

The suggested statutory amendments for these recommendations can be found at Appendix B.

## **IV. Conclusion**

The intent of establishing a framework for the implementation of a product stewardship program is to avoid a piecemeal approach to legislation. Creating a consistent basis for programs, plans and reporting allows the department to work efficiently, and provides producers and product stewardship organizations consistent and expected standards. Additionally, this proposed framework is similar to legislation in other New England states. As new products or product categories are introduced, the product-specific statutory sections can include additional requirements to account for the need to handle certain aspects differently. At a minimum, this proposed framework language simply defines the basic principles needed to implement a successful product stewardship program.

## Appendix A: Proposed Framework Language

Below is the proposed statutory language for the comprehensive framework law recommended in this report.

### § 1773. Product stewardship program

1. All producers selling a product in the State that is a designated product or product category in accordance with section 1772 are responsible individually, collectively, or through a stewardship organization, for the implementation and financing of a product stewardship program to manage the product, in accordance with the priorities in 38 MRSA § 2101, at the end-of-life.

A. The program must provide a collection system that is convenient and adequate to serve the needs of covered entities in both rural and urban areas.

B. The program must provide for effective education and outreach to promote the use of the program and to ensure that collection options are understood by covered entities.

C. Conduct authorized. A producer or stewardship organization, including a producer's or stewardship organization's officers, members, employees and agents that organize product stewardship programs required under this chapter, is immune from liability for the conduct under state laws relating to antitrust, restraint of trade, unfair trade practices, and other regulation of trade or commerce only to the extent necessary to plan and implement the producer's or organization's chosen organized collection or recycling system.

2. Requirement for sale. 180 days after a product stewardship plan is approved in accordance with subsection 8, no producer, wholesaler, or retailer may sell or offer for sale in the state the product or product category designated in accordance with section 1772, unless the product's producer participates individually, collectively or through a stewardship program in an approved stewardship plan.

3. No fee. A product stewardship program may not charge a fee at the time an unwanted product is delivered or collected for recycling or disposal.

4. Costs. Producers in a product stewardship program must finance the collection, transportation and reuse, recycling or disposition of the covered product or product categories.

5. Requirement to submit a plan. Within one year of a product or product category being designated in accordance with section 1772, a producer or stewardship organization must submit a stewardship plan to the department for approval.

A. The plan must include:

(1) Identification and contact information for:

(a) The individual or entity submitting the plan;

(b) All producers participating in the product stewardship program;

(c) The brands covered by the program; and

- (d) If utilizing a stewardship organization, a description of that organization which includes the tasks to be performed, and the organization from administration to management of that organization;
- (2) A description of the collection system including:
  - (a) The types of location sites or other collection services to be used;
  - (b) How all covered products will be collected in all counties of the State;
  - (c) How it will be convenient and adequate to serve the needs of all entities;
- (3) The names and locations of recyclers, processors and/or disposal facilities that may be used by the product stewardship program;
- (4) How the product or product components will be safely and securely transported, tracked and handled from collection through final disposition;
- (5) If possible, a description of the method to be used to reuse, deconstruct, or recycle the discarded product to ensure that the product components, are transformed or remanufactured to the extent feasible;
- (6) A description of how the convenience and adequacy of the collection program will be monitored and maintained;
- (7) A description of how the amount of product/ product components collected, recycled, processed, reused, and/or disposed of will be measured.
- (8) A description of the education and outreach methods that will be used to encourage participation;
- (9) A description of how education and outreach methods will be evaluated;
- (10) Any performance goals established by producers or a stewardship organization to show success of the program; and
- (11) A description of how the program will be financed. If the program is financed by a per unit assessment paid by the producer to a stewardship organization, a plan for annual conduct of a third-party audit to ensure revenue from the assessment does not exceed the cost of implementing the product stewardship program is required.

**6. Plan amendments.** Any change to an approved product stewardship plan must be submitted to the department for review prior to the implementation of that change. If a change is not substantive, such as the addition or change to collection locations, or an additional producer joins the program, approval is not needed, but the entity running the program must inform the department of this change within 14 days of implementing such a change. Plan amendments shall be reviewed in accordance with subsection 8.

**7. Annual reporting.** After the first full year of the implementation of an approved product stewardship program the entity operating the program must submit to the department a report by February 1st, and annually thereafter. The first full year of the program will be considered to begin January 1<sup>st</sup> and end December 31<sup>st</sup> of the same calendar year. The report must include, at a minimum:

- (A) The amount of product collected per county;
- (B) A description of the methods used to collect, transport and process the product;
- (C) Program evaluation including, where possible, diversion and recycling rates, including certificates of recycling or similar confirmations;

(D) A description of the methods used for education and outreach efforts and an evaluation of the convenience of collection and the effectiveness of outreach and education;

(1) Every two years, the methodology and results of an assessment of the effectiveness of education and outreach efforts must be completed by a third party;

(E) If applicable, the report of the third party audit conducted to ensure that revenue collected from the assessment does not exceed implementation costs; and

(F) Any recommendations for changes to the program to improve convenience of collection, consumer education, and program evaluation.

**8. Department review and approval.** Within 20 business days after receipt of a proposed product stewardship plan, the department shall determine whether the plan complies with subsection 5. If approved, the department shall notify the submitter, in writing. If the department rejects a proposed stewardship plan, the department shall notify the applicant in writing stating the reason for rejecting the plan. A submitter whose plan is rejected must submit a revised plan to the department within 60 days of receiving a notice of rejection.

**9. Plan availability.** All approved stewardship plans by the agency shall be placed on the department's website within 30 days of approval.

**10. Proprietary information.** Any proprietary information submitted to the department through either the stewardship plan or reporting requirements, and identified as such by the submitter as proprietary is nonpublic data.



## Appendix B: Proposed Amendment to Accommodate Framework Recommendations and Other Statutory Amendments

The amended language below, moves the current 38 MRSA § 1773 to 38 MRSA § 1772(5), in order to accommodate the proposed framework language found at Appendix A. If the proposed framework is not adopted, these amendments are not necessary.

### §1772. Identification of candidate products; report

**1. Policy; report.** It is the policy of the State, consistent with its duty to protect the health, safety and welfare of its citizens, to promote product stewardship to support the State's solid waste management hierarchy under chapter 24. In furtherance of this policy, the department may collect information available in the public domain regarding products in the waste stream and assist the Legislature in designating products or product categories for product stewardship programs in accordance with this chapter. By ~~January~~ February 15, and annually thereafter, the department may submit to the joint standing committee of the Legislature having jurisdiction over natural resources matters a report on products and product categories that when generated as waste may be appropriately managed under a product stewardship program. The report submitted under this section may include updates on the performance of existing product stewardship programs.

**2. Recommendations.** The report submitted under subsection 1 may include recommendations for establishing new product stewardship programs and changes to existing product stewardship programs. The department may identify a product or product category as a candidate for a product stewardship program if the department determines one or more of the following criteria are met:

A. The product or product category is found to contain toxics that pose the risk of an adverse impact to the environment or public health and safety;

B. A product stewardship program for the product will increase the recovery of materials for reuse and recycling;

C. A product stewardship program will reduce the costs of waste management to local governments and taxpayers;

D. There is success in collecting and processing similar products in programs in other states or countries; and

E. Existing voluntary product stewardship programs for the product in the State are not effective in achieving the policy of this chapter.

**3. Draft legislation.** The report submitted under subsection 1 must include draft legislation if any is necessary to implement a product stewardship program requirement for the product or product category.

**4. Public comments.** At least 30 days before submitting the report under subsection 1 to the joint standing committee of the Legislature having jurisdiction over natural resources matters, the department shall post the report on its publicly accessible website. Within that period of time, a person may submit to the department written comments regarding the report. The department shall submit all comments received to the committee with the report.

**5. §1773. Establishment of product stewardship programs.** Annually, after reviewing the report submitted by the department pursuant to section 1772, the joint standing committee of the Legislature having jurisdiction over natural resources matters may submit a bill to implement

recommendations included in the department's report to establish new product stewardship programs or revise existing product stewardship programs.

## Appendix C: Existing Program Updates

### Performance Review on Extended Producer Responsibility (EPR) Programs

Reviews are provided on the following EPR programs:

- Cell phones and certain dry cell batteries, (38 MRSA § 2143 and 38 MRSA §2165)
- Mercury auto switches, (38 MRSA §1665-A)
- Electronic Waste (also known as ‘E-Waste’), (38 MRSA § 1610)
- Mercury-added thermostats, (38 MRSA § 1665-B)
- Mercury-added lamps, (38 MRSA §1672)

### Cellular Telephones

*(38 MRSA §2143. Cellular telephone recycling) and (38 MRSA §2165. Regulation of certain dry cell batteries)*

Cellular telephones are part of a product stewardship program, but unlike other product specific programs, the requirements are on the service providers, and not the producers. Currently, unwanted cell phones have a market value, and a free collection system for cell phone recycling is very widespread in Maine. The collection network includes 100 locations offered by the five cellular telephone services providers and their authorized dealers and 675 additional sites offering the Call2Recycle<sup>®</sup><sup>1</sup> program (371 retail and 304 municipal, public agency and business locations). Retailers utilizing the Call2Recycle<sup>®</sup> program, which utilizes collection boxes, include the stores of several of the larger retail chains (Rite Aid, RadioShack, Best Buy and Wal-Mart). The department expects the Call2Recycle<sup>®</sup> program to remain widely available at retail and municipal solid waste collection locations throughout Maine.

The Call2Recycle<sup>®</sup> program was originally put in place to fulfill the manufacturer responsibility provisions in 38 MRSA §2165(4) for recycling of dry cell mercuric oxide, nickel-cadmium and sealed lead acid batteries.

In addition to these physical collection sites located across the state, there are many internet-based non-profit organizations soliciting donations of cell phones, as well as for-profit businesses offering to purchase cell phones from consumers. A quick Google search for “cell phone recycling for cash” finds over 2 million “results” and 11 paid advertisers on “page 1” offering to buy cell phones directly from consumers.

Due to the widespread availability of collection locations for cell phone recycling and their projected continued positive value as a market commodity, we recommend the repeal of those provisions in Maine’s *Cellular Telephone Recycling* law that mandate collection of cellular telephones by any retailer that sells cellular telephones. The positive commodity value of cellphones will continue to support many entities (both for-profit and non-profit) in making the business decision to offer free collection of cell phones for recycling. Proposed legislation addressing this recommendation is included at Appendix D.

<sup>1</sup> The ‘Call2Recycle<sup>®</sup>’ program is the only free rechargeable battery and cellphone collection program in North America. Their website is: <http://www.call2recycle.org/>

## **Mercury Auto Switches**

*(38 M.R.S.A. §1665-A. Motor vehicle components)*

There have been two major changes in Maine's extended producer responsibility (mandated end-of-life product stewardship) program for mercury-added vehicle switches in the past two years.

The first major change occurred on October 19, 2010, when the Maine DEP gave final approval to changes in how the manufacturers implement their EPR program for mercury auto switches. The new plan utilizes the National Mercury Vehicle Switch Removal Program (NMVSRP) implemented by End-of-Life Vehicle Solutions Corporation (ELVS) on behalf of the manufacturers. End-of-life vehicle handlers now order their mercury switch collection pails on line, and call FedEx for free pick up for recycling (they used to have to deliver their collected switches to one of two sites in Bangor or Portland). ELVS operates the NVMSRP in all 50 states as long as funding from manufacturers and steel recyclers is available. This has resulted in improved program performance in 2011 and 2012.

As of August 31, 2012, ELVS reported that 4,405 switches had been recovered from Maine in 2012. ELVS noted that this is the 4<sup>th</sup> best performance for all states based on the percent of available switches recycled. The website for ELVS is [www.elvsolutions.org/](http://www.elvsolutions.org/).

**Table 1 – Record of Mercury Auto Switches Recovered for Recycling In Maine**

<b>Year</b>	<b>Number of Switches <sup>1</sup></b>	<b>Pounds of Mercury Collected <sup>2</sup></b>	<b>Captured % of Estimated Switches Available <sup>3</sup></b>
2003	1,613	4	5 to 6%
2004	3,831	8	13 to 16%
2005	4,520	10	16 to 20%
2006	17,746	39	65 to 90%
2007	3,734	8	14%
2008	6,972	15	28%
2009	6,868	15	30%
2010	5,685	13	27%
2011	2,236	5	12%
2012	6,429	14	36%
<b>Total</b>	<b>59,634</b>	<b>131</b>	<b>25%</b>

1. The data used includes all Alliance of Automobile Manufacturers member motor vehicle makes of automobiles and light trucks. The 2012 data is only through November 30, 2012.
2. Calculated using an average weight of one gram of mercury per switch.
3. The low and high percentages reported in 2003-2006 are based on the number of switches available for recycling as estimated by the Clean Car Campaign and the Alliance of Automobile Manufacturers respectively. Beginning in 2007, the capture rate is determined using one data set for the number of switches available agreed upon by these entities as part of the National Vehicle Mercury Switch Removal Program.

The second major change is in the funding guarantee given Maine's program through the *Stipulation and Agreed Order entered 6/29/11 by Motors Liquidation Company GUC Trust and 12 states*, including Maine, in the U.S. Bankruptcy Court Southern District of New York. In this, the new General Motors Corporation (GMC) agreed to voluntarily provide \$4.5 million to NVMSRP to cover the Motor Liquidation Company (the "old" GMC) share of ELVS program costs for 12 states, including Maine. This is anticipated to provide funding for the program to be operated through the year 2022. This is five years beyond the previous projected life of the program due to the increased average time vehicles containing mercury switches are anticipated to be on the road, given the economic recession experienced in this country.

### **Electronic Waste**

*(38 M.R.S.A §1610. Electronic Waste)*

Maine's extended producer responsibility (EPR) program for e-waste continued to be smoothly implemented throughout 2011 and 2012 with assistance from municipalities, retailers, non-profits, consolidators and manufacturers. The annual amount of covered electronics collected for recycling and the per capita recycling rates for the Maine EPR program, along with the independent Dell-Goodwill "ReConnect"<sup>1</sup> program, are shown in the following table:

Year	Total Pounds of Products Collected	Maine Program <i>(Pounds Per Capita)</i>	Goodwill-Dell ReConnect <i>(Total Pounds)</i>	Efforts of Both the Maine Program and ReConnect <i>(Pounds Per Capita)</i>
2006	4,160,574	3.15		
2007	4,688,552	3.55		
2008	5,274,419	3.99		
2009	7,912,292	5.99		
2010	5,368,445	4.06	1,151,997	4.93
2011	6,931,248	5.24	1,160,233	6.12
Total	34,335,530*		2,312,230	

\* 34,335,530 pounds is equal to approximately 17,168 tons of electronic wastes

The spike in pounds of products collected in 2009 was likely due to the digital conversion of television broadcasting and the implementation of one-day collection events by consolidators, particularly in previously underserved areas of the state. In June 2011, Maine's EPR program was expanded to include covered electronics from K-12 schools and from businesses and non-profits with 100 or fewer employees.

<sup>1</sup> The website for the 'Dell-Goodwill "Reconnect" Program is <http://dellreconnect.com/>

**Mercury-added thermostats***(38 M.R.S.A. §1665-B. Mercury-added thermostats)*

The recycling rate for mercury-added thermostats remained flat in 2011. The Thermostat Recycling Corporation (TRC) continued to implement the program on behalf of manufacturers, with collection available at all HVAC wholesale locations and at voluntary retail locations. In 2011, TRC shifted its education & outreach focus away from Maine-specific content to develop a more generic “national” marketing campaign.

In 2012, the DEP urged TRC to do more targeted education and outreach in Maine, noting that no thermostats had been collected from Washington, Somerset and Piscataquis Counties, and only one shipment was received from each of four other counties (Lincoln, Sagadahoc, Hancock and Waldo). Combined, these seven counties represent approximately 20% of Maine’s population. Despite repeated requests, TRC has yet to submit an education and outreach plan, as required, for 2012. TRC reports the number of thermostats collected each quarter to Maine DEP; quarterly collection numbers increase after DEP staff conduct field visits to provide technical assistance to collection sites.

The following table presents data on the number of thermostats collected from 2001 through 2011, through the TRC Program, the Universal Waste (UW) program furnished by municipalities that serve residents and businesses, and the collection program offered by Environmental Projects Inc. (EPI) of Auburn, Maine.

**Number of Thermostats Collected**

<i>Year</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
TRC Program	233	280	482	1,079	1,290	2,924	4,656	5,555	6,374	6,523	6,616
UW collection	253	856	1,398	335	701	361	667	823	655	500	150
EPI Program <sup>1</sup>	0	0	0	0	0	0	363	353	0	0	0
<b>Total</b>	<b>486</b>	<b>1,136</b>	<b>1,880</b>	<b>1,414</b>	<b>1,991</b>	<b>3,285</b>	<b>5,686</b>	<b>6,731</b>	<b>7,029</b>	<b>7,023</b>	<b>6,766</b>
Recycling Rate <sup>2</sup>	2%	4.2%	7%	5.2%	7.3%	12%	20.9%	24.7%	25.8%	25.8%	24.9%

<sup>1</sup> EPI ran a parallel program for smaller thermostat manufacturers until TRC adjusted their rates for manufacturers to participate in the TRC program.

<sup>2</sup> The recycling rate is based on calculations assuming a 30-year lifespan, an estimate of 27,200 mercury thermostat removals occurring each year in Maine. The sale of mercury-added thermostats was banned in Maine beginning in 2006.

**Mercury-added lamps**

The department will provide an update on mercury-added lamp recycling rates, as required by 38 MRSA § 1672(4)(E), at a later date.

*(38 M.R.S.A. §1672. Mercury-added Lamps)*

2011 was the first year that manufacturers implemented their own extended producer responsibility program for the collection and recycling of mercury-added lamps (both fluorescent and ‘High Intensity Discharge’, or HID) from households. Through contract, the National Electrical Manufacturers Association (NEMA) utilizes the Veolia Company’s “RecyclePak” program. Once registered with NEMA, collection sites, including municipal offices and solid waste or recycling facilities, are able to go ‘on-line’ to order containers for shipping the mercury-added lamps that have been collected at the location off to a recycling facility, at no charge to the collection site.

By the end of 2011, 149 retail and municipal solid waste sites had signed up for the program administered by NEMA. The majority of collection sites were retailers that had participated in the Efficiency Maine Compact Fluorescent Lamp (CFL) collection program that was coupled with outreach encouraging consumers to purchase CFLs. In 2012, NEMA and Maine DEP have reached out cooperatively to encourage additional retailers and municipal collection sites to sign up for the program. By the beginning of October 2012, a total of 283 collection sites across the state were participating in this manufacturer’s sponsored program. In 2012, DEP created the “Help ME Recycle” interactive web portal, which is featured on the DEP’s homepage, to assist Maine residents in finding collection sites for lamps and other products. NEMA and DEP continue working together to develop evaluation mechanisms and to improve education & outreach to collection sites and consumers.

## Appendix D: Draft Language Removing Mandatory Collection and Recycling for Unwanted Cellular Telephones.

As noted previously, the positive commodity value of cellphones will continue to support many entities (both for-profit and non-profit) in making the business decision to offer free collection of cell phones for recycling.

### 38 MRSA §2143. CELLULAR TELEPHONE RECYCLING

**1. Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Cellular telephone" means a mobile wireless telephone device that is designed to send or receive transmissions through a cellular radiotelephone service as defined in 47 Code of Federal Regulations, Section 22.99 (2005). "Cellular telephone" does not include a wireless telephone device that is integrated into the electrical architecture of a motor vehicle.

~~B. "Cellular telephone service provider" means a provider of wireless voice or data retail service.~~

~~C. "Retailer" means a person, firm or corporation that sells or offers to sell a cellular telephone to a consumer at retail.~~

~~**2. Collection system.** Effective January 1, 2008, a retailer shall accept, at no charge, used cellular telephones from any person. A retailer required to accept used cellular telephones under this subsection shall post, in a prominent location open to public view, a notice printed in boldface type and containing the following language: "We accept used cellular telephones at no charge."~~

**3. Disposal ban.** Effective January 1, 2008, a person may not dispose of a cellular telephone in solid waste for disposal in a solid waste disposal facility.

**4. Reports.** By January 1, 2009, and every year thereafter until January 1, 2013, a cellular telephone service provider shall report to the department the number of cellular telephones collected pursuant to this section and how the collected cellular telephones were disposed of, reused or recycled. By February 1, 2009 and every year thereafter until February 1, 2013, the department shall report on the collection system to the joint standing committee of the Legislature having jurisdiction over natural resources matters.



**From:** MacDonald, George  
**Sent:** Tuesday, February 05, 2013 02:18 PM  
**To:** Schneider, Deirdre  
**Subject:** FW: feedback on EPR plans

**From:** Neil Seldman [<mailto:nseldman@ilsr.org>]  
**Sent:** Wednesday, December 19, 2012 5:00 PM  
**To:** MacDonald, George  
**Subject:** feedback on EPR plans

Hi Mr. McDonald,

I have reviewed the plan.

I do not see any incentives or directives for refurbishing and reuse. I do not see any incentives for keeping valuable e scrap items at the local level for value added and job creation.

I would be pleased to discuss how these might be incorporated into your plan.

Sincerely,

Neil Seldman  
President  
Institute for Local Self-Reliance  
2001 S Street NW, Suite 570  
Washington, DC 20009  
202 898 1610 X 210  
[nseldman@ilsr.org](mailto:nseldman@ilsr.org)

**From:** Carl Smith [<mailto:CSmith@call2recycle.org>]

**Sent:** Thursday, December 27, 2012 9:27 AM

**To:** MacDonald, George

**Cc:** Carl Smith; Mark A. Kohorst ([mar\\_kohorst@nema.org](mailto:mar_kohorst@nema.org)); Tibbetts, Mark ([mark.tibbetts@thermostat-recycle.org](mailto:mark.tibbetts@thermostat-recycle.org))

**Subject:** Comments on the Report to the Joint Standing Committee



December 27, 2012

George MacDonald, Director  
Division of Sustainability  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04330-0017

Dear Mr. MacDonald,

This letter contains comments of Call2Recycle® – one of the first and arguably most successful product stewardship programs in North America – on the state’s Department of Environmental Protection’s report to the Joint Standing Committee on Environment and Natural Resources entitled “Implementing Product Stewardship in Maine”, which was published pursuant to 38 MRSA § 1772. We appreciate the opportunity to comment on such an important report.

As this report acknowledges, the Call2Recycle® program has voluntarily collected rechargeable batteries in the state of Maine since 1994 via retailers, municipalities, businesses and other organizations. Our comments reflect what we’ve learned over almost two decades of experience. These comments can be broken down into three categories: enforcement, plan development and maintenance, and education effectiveness.

**ENFORCEMENT.** It has become increasingly difficult to convince producers to voluntarily participate in stewardship programs. Even in states that have regulations allowing for enforcing participation, efforts to ensure compliance have been modest and inconsistent at best. We believe that the only way to ensure producer participation is to grant approved plans a limited private right of action, where plans can seek payment from producers for their costs in collecting batteries from non-participating stewards. Approved plans have a strong incentive to pursue non-participating stewards and will have the best information on who is and is not participating. Such a right would be in addition to whatever enforcement responsibility that the state would maintain. This is a critical step in providing industry a level playing field.

**PLAN DEVELOPMENT AND MAINTENANCE.** In several areas, we believe the requirements of what should be in the plan and how the plan needs to be maintained are burdensome and impractical. First, Section 5. A. (11.) requires the plan to include provision of an annual “third-party audit to ensure revenue from the assessment does not exceed the cost of implementing the product stewardship program...” Rechargeable batteries, like other products,

are in the market place for many years, creating a long-term liability for the product stewardship program. Fees on today's sales must finance tomorrow's collections. This requirement doesn't reflect the lifecycle of products. Additionally, for national programs such as ours, conducting state-by-state audits are both very expensive, ineffective and impractical.

Second, Section 6. describes the process for minor plan amendments. Changes in sites, participants, education plans and other activities occur at least weekly and sometimes even daily, depending on the type of change. It is unreasonably burdensome to require plans to notify the state of all such changes within 14 days of their occurrence.

Third, requirements under Section 5. specify that plans must include "the brands covered by the program..." Products like rechargeable batteries have been in the marketplace for 20+ years. It is not possible to trace and assign all brands to producers. We would recommend that plan requirements are limited to identifying producers participating in plans.

**EDUCATION EFFECTIVENESS.** In section pertaining to both the plan development and the annual report, there are requirements for measuring the effectiveness of education and outreach efforts. While we fully acknowledge that education is essential to optimizing collection efforts, we question whether there is any reliable measure of education efforts other than overall collection results. As a consequence, we believe such requirements in the law will just lead to academic bickering and will not lend itself to constructive approaches to improving overall diversion rates.

Thank you for the opportunity to comment. We are prepared to continue this conversation either in person or via correspondence. Please let us know how we might assist.

Sincerely,



**Carl E. Smith, LEED® AP**  
CEO / President, Call2Recycle®  
Recharging the planet. Recycling your batteries™

+1-678-218-4586  
[csmith@call2recycle.org](mailto:csmith@call2recycle.org)

 Please consider the environment before printing this email

**From:** Travis Wagner [<mailto:twagner@usm.maine.edu>]

**Sent:** Monday, December 31, 2012 12:52 PM

**To:** MacDonald, George

**Subject:** Comments Regarding Maine DEP's 2013 Annual Product Stewardship Framework Law Report

George MacDonald  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, ME 04333

Dear Mr. MacDonald,

I am providing comments to you regarding the Maine DEP's 2013 annual report under Maine's Product Stewardship Framework law.

#1 – With regards to your proposed repeal of the mandatory collection of cellular telephones by retailers, I see insufficient justification to support this proposal. The justification provided is that because there is an adequate market, including third party entities, for used cellular phones, retailers should not be required to accept used cellular phones. I disagree with this proposal on two counts. First, an underlying principle of product stewardship is shared responsibility. That is, all major entities involved in the production, sale, use, and EOL management should share it a product's responsible post-EOL management. By removing retailers from the shared responsibility with regards to cellular phones, Maine is sending a message that the responsibility should be shifted back to municipalities and users and thus sets a bad precedent for other products stewardship schemes. The second aspect is that current research (see comment below) demonstrates that including retailers as collection points for designated EOL products, the level of convenience for consumers increases significantly. This is a function of opportunities and options for users to drop-off products close to home, close to work, or while shopping. Removing the option of retailers provides no clear economic benefit to the management of the product while decreasing convenience for the user and thus increasing their economic and/or time opportunity costs. While your justification is based on the existence of markets, there is no certainty that this market will always be strong and by removing the retailer responsibility, a market collapse/reduction could result in the disposal of cellular phone as municipal solid waste. The prevention of this occurrence is the primary justification for product stewardship laws in Maine. Therefore, I urge you to not pursue the retailer exemption.

#2 – This comment is in regards to your proposed statutory language in sec. 1773.1.A., "The program must provide a collection system that is convenient and adequate to serve the covered entities in both rural and urban areas." -- and sec. 1773.5.A.(2)(c), "How it will be convenient and adequate to serve the needs of all entities." I agree, collection systems must be convenient; however, convenience is a subjective construct and requiring that a program state how it is convenient provides insufficient guidance for the development, implementation, and compliance of a collection system. Therefore, I urge you to add language to guide a product stewardship program developer or to prepare specific guidance on what is convenience with regards to product stewardship collection systems in Maine. For example, research has shown that the specific factors of convenience are: Knowledge Requirements (and ease in obtaining the necessary information), Proximity to Collection Point (physical distance one must travel), Opportunity to Drop-Off Materials (days and hours one can drop off materials), Draw of the Collection Point (avoiding requirements for dedicated trips to drop-off materials), and the Ease of Process (physical access, transaction requirements, etc.). Therefore, in sec. 1773.5.A.(2)(c), it would be more helpful to all stakeholders to provide these factors of convenience and require the report to explain the achievement of convenience with regards to these various factors. I am attached a research article on convenience (Wagner, T.P. 2013. Examining the concept of convenient collection: An application to extended producer responsibility and product stewardship frameworks. Waste Management

(in press)), which I recommend you consider in developing statutory language or guidance regarding the convenience requirement.

Thank you for the opportunity to provide comments,

Travis P. Wagner, Ph.D.  
Associate Professor of  
Environmental Science & Policy  
Department of Environmental Science  
University of Southern Maine  
106 Bailey Hall  
Gorham, ME 04038, USA  
207.228.8450



January 14, 2013

George MacDonald  
Director, Division of Sustainability  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, ME 04339-0017

**Comments on the Maine Department of Environmental Protection's 2013 Report to the Legislature, "Implementing Product Stewardship in Maine"**

Dear Mr. MacDonald,

Thank you for the opportunity to submit comments on the Department of Environmental Protection's 2013 Report to the Legislature, *"Implementing Product Stewardship."* The Natural Resources Council of Maine is the State's leading environmental advocacy organization. Over the past decade, NRCM has worked with the DEP, Maine State Legislature, businesses, trade associations, and other interested parties to help craft, monitor, and promote product stewardship programs that have helped reduce mercury pollution to Maine's environment, divert millions of pounds of waste from Maine's landfills and incinerators, save money for taxpayers and municipalities, and create jobs here in Maine. We have worked with the DEP and many of these same parties to identify ways to continually improve implementation of Maine's nationally recognized product stewardship programs, and we have participated in many explorations of additional product categories for possible new product stewardship programs.

It is with this knowledge and experience relevant to the laws and programs referred to in this report that we submit the following comments. Our comments address the DEP's analysis of existing product stewardship programs included in the body of the report (p. 1-3) and in Appendix C, as well as the conclusions connected to the proposed statutory changes in Appendix D. Our comments also provide suggestions and changes to the proposed legislative language to amend the framework law and the cell phone law included in appendices A and B.

**Body of the Report:**

Overall, the Department's 2013 Report represents a positive departure from the misinformation and false conclusions in the 2012 report. We applaud the Department's apparent renewed commitment to thorough monitoring and administration of existing product stewardship programs. With a few exceptions, the program updates in Appendix C demonstrate an accurate analysis of the performance of Maine's cell phone, dry-cell battery, auto switch, electronic waste, thermostat, and lamps recycling programs. The analysis of ongoing implementation of these programs and the data included on their performance shows a vast

improvement compared to the 2012 report and we thank the department for this more appropriate performance review.

We are, however, disappointed that this report follows in the footsteps of the 2012 report in so far as it does not identify any new product or product categories as candidates for a product stewardship program, as was the original intent of this reporting authority under the framework law found at 38 MRSA §1772-1775. There is a long list of products and product categories that meet some or all of the criteria laid out in 38 MRSA §1772.2 for the department to use to identify candidates for new programs. Used architectural paint, bulky wastes such as mattresses and carpet, medical sharps, unwanted pharmaceuticals, household hazardous waste, currently un-covered electronics, textiles, alkaline batteries, tires, and phone books are just a few examples. Many of these product categories are priorities for product stewardship programs in other New England states. A thorough review of these products under Maine's framework candidate review process would bring Maine in step with the region.

We further recommend that the department include a performance review of the Maine Returnable Beverage Container Law, 32 MRSA §1861-1873 as part of the department's authority to report on existing product stewardship programs. The report provisions of the existing beverage container deposit law do not currently include report requirements. Though this law has established a true producer responsibility program by requiring beverage manufacturers to "reimburse the dealer or local redemption center for the cost of handling beverage containers" (32 MRSA §1866.)

#### Appendices C and D:

##### Cellular Telephones

We do not support the Department's suggested repeal of the provisions in current law that mandate collection by retailers of used and unwanted cell phones. Just because unwanted cell phones have a market value and there exist free collection programs does not justify elimination of the requirement that retailers provide this service. Such a change in statute would decrease the volume of cell phones diverted from the waste stream each year in Maine.

Repealing this requirement would provide no real benefit to retailers, other participants in the used cell phone marketplace, or the citizens of Maine. The requirement does not impose an excessive burden on cell phone retailers, most of which already have a designated area for rechargeable battery recycling. There is no evidence that there is currently any difficulty faced by retailers in compliance with this law that repealing this provision would alleviate.

However, removing this requirement could worsen program performance by eliminating collection points. It could cause negatively affect recycling rates and convenience standards, which would impose negative costs on the environment and public health and would be counter to the department's commitment to product stewardship as a system of shared

responsibility between all parties involved in the production, sale, distribution, and collection of a product. There is no guarantee that the market for used cell phones will always create positive value for this product and that free voluntary programs will always exist. Given this uncertainty, we urge the department and the legislature to reject the suggestions in Appendix D and maintain the provisions in 38 MRSA §2143 requiring retail cell phone collection.

### Mercury Auto Switches

We appreciate the up-to-date and accurate data on collection included in the report on the Mercury Auto Switch recycling program. However, the Department made no mention of the bounty program that is the most critical driver of successful recovery of mercury-containing motor vehicle components. The changes to program implementation that have allowed the Maine program to be harmonized with the ELVS national system may be one driver of “improved program performance in 2011 and 2012,” but it is not the whole story. An accurate performance review of this program would acknowledge that the \$4 bounty paid to end-of-life vehicle handlers for each returned switch is the most important factor in the ensuring that Maine program’s collection rate was 4<sup>th</sup> highest for all states in 2012.

### Electronic Waste

We would suggest that in order to comply with 38 MRSA §1610, this report, or a subsequent one, include:

1. An evaluation of electronics recycling rates in the state. The existing report only provides collection totals, not rates.
2. A discussion of compliance and enforcement related to the law. We are aware of a number of recent issues related to consolidator and recycler compliance with environmental and worker safety regulations, which should be included in a thorough performance review of the program.
3. Recommendations for any changes in the collection and recycling of electronic devices in Maine. In an effort to address compliance issues, these proposed changes should increase the stringency of the worker safety and environmental standards (to a standard such as the Basel Action Network’s “E-Stewards” program) required for the recyclers authorized to receive shipments from e-waste consolidators.

### Mercury-Added Thermostats

It is important to note the critical role that the \$5 incentive per thermostat plays in the success and implementation of Maine’s Mercury-added Thermostat law. The Department made no mention of the bounty program. Additionally, as the department reports, the recycling rate for thermostats remained flat in 2011. There are a number of relevant factors that have contributed to this lack of growth of the recycling rate. It is important to note in this report that the Thermostat Recycling Corporation has repeatedly engaged in activities designed to



minimize the number of thermostats they collect in Maine. In addition to avoiding any responsibility to achieve higher recycling rates by creating, executing, measuring, and reporting on targeted education and outreach to Maine citizens and technicians, TRC has avoided payments and made false claims of “fraud” in Maine’s program by claiming that only “technicians” and “homeowners” are eligible to claim the \$5 bounty on returned thermostats. This discourages participation in the program and costs the department time and money to try to enforce the requirements of the law. TRC has repeatedly found ways to delay payments due to electrical wholesale program participants, sometimes causing technicians to wait months or even years for their incentive payment.

The numerous compliance issues the Department has been challenged with since the program’s inception necessitate multiple changes to Maine’s Mercury-Added Thermostat recycling law, 38 MRSA § 1665, that will not be accomplished by the changes proposed for the framework law in Appendix A. We suggest the following changes.

1. Clarify manufacturer responsibility to provide a financial incentive with a minimum value of \$5 for the return of each mercury-added thermostat by any party to an established wholesale or retail recycling collection point. This change was previously submitted by the Department in the 2011 Maine DEP Omnibus bill, DEP Legislative Proposal, “An Act to Make Minor Changes to Statutes Administered by the Department of Environmental Protection (DEP03). These proposed changes were sought by the Department to help improve performance of the program by removing loopholes that TRC was using to refuse payments. However, the proposed changes were later deleted in the Legislature’s Errors and Inconsistencies bill (Part E, Sect. E-1 38 MRSA 1665-B, sub-2, Para A, “An Act To Correct Errors and Inconsistencies in the Laws of Maine”) by request from the Commissioner.
2. Require manufacturers to provide bins to property management companies and housing authorities with responsibility for more than 50 units. (Without this provision TRC will continue to avoid efficient, cost-effective solutions to increase recycling rates by increasing access to collection bins).
3. Require measurement, reporting, and requisite enforcement authority to achieve effective education and outreach by mercury-added thermostat manufacturers in Maine:
  - a. Require that effective education and outreach aim to increase consumer awareness regarding the law prohibiting the disposal of mercury-added thermostats and regarding collection locations and incentive payments for mercury-added thermostats. Include statutory goals for education and outreach to achieve 60% awareness among households of these features of the program after one year after adoption of the changes in the relevant sub-section, 70% household awareness after three years, and 80% household awareness after five years.

b. Require that manufactures conduct a biennial consumer awareness survey to determine the effectiveness of education and outreach about the program and progress toward the statutory goals.

c. Require that manufactures report annually to the department on the results of the biennial survey and an evaluation of the effectiveness of the manufacturer's education and outreach efforts.

d. Include a penalty provision if manufacturers do not achieve statutory goals, with funds to be used for program evaluation to improve recycling rates. (There is currently no consequence or enforcement power for the department if manufacturers do not achieve the statutory goal of at least 125 pounds of mercury within 2 years and at least 160 pounds of mercury within 3 years of the program.

#### Mercury-Added Lamps

The department reports that "NEMA and DEP continue working together to develop evaluation mechanisms and to improve education and outreach to collection sites and consumers." These efforts have not been sufficient to measure or improve the effectiveness of education and outreach on the subject of mercury-containing lamps recycling. In order for timely and efficient assessment and improvement of these efforts, we recommend inclusion of the proposed legislation for consideration included in Appendix K of the Department's 2011 report, "Implementing Product Stewardship in Maine<sup>1</sup>." These proposed changes would amend 38 MRSA §1672 to include consumer awareness goals and requirements for effective education and outreach programs and would create a process for surveying, reporting, and evaluating those efforts.

#### Appendices A and B: Proposed Framework Language

We fully support the Department's efforts to create a more comprehensive framework policy for product stewardship programs. The proposed changes to 38 MRSA § 1773 Framework changes are a significant step in the right direction. A better defined role for the department and the manufacturer is a laudable goal that the proposed changes would establish. However, the proposed changes do not go far enough to ensure effective product stewardship programs under the framework law. We suggest that these changes should also include the following provisions:

1. Establish Performance Goals and appropriate metrics: these should be established by the department uniquely for each product category. Establishment of the performance goals of the program is not an appropriate role for the producers, who face mixed incentives as far as increasing the performance of their program. For some product categories, multiple performance goals should be established. Additionally, the

---

<sup>1</sup> Maine Department of Environmental Protection, "Implementing Product Stewardship in Maine: 2011 Report to the Joint Standing Committee on Natural Resources" January 15, 2011 p. 82-83

department should establish accurate metrics to measure progress toward performance goals, require reporting of these metrics by the producers to the department.

- a. In some cases, the recycling rate may be the most appropriate performance goal. The reporting requirements must require program evaluation including recycling rates. (38 MRSA § 1773.7. Annual reporting)
  - b. Amount of product collected may also be an appropriate goal.
  - c. A measure of convenience may be the most appropriate for some products and should be established by the department, not through the producer stewardship plan. (38 MRSA § 1773.5. Requirements to submit a plan). In some cases, convenience may best be measured by consumer awareness within the targeted population. In others, convenience may be best measured by a spatial/geographical assessment of residential access to collection sites. These metrics and accompanying reporting requirements should be established by the department according to what is appropriate for each product category. A measure of convenience will need to be defined uniquely for each product category. This measure is traditionally a complementary performance measure to other performance goals.
2. Establish Goals, assessment, and reporting for effective education and outreach. Require accurate metrics used to measure progress towards these goals and thorough reporting on these measures. Again, we refer you to the proposed legislation for consideration included in Appendix K of the Department's 2011 report, "Implementing Product Stewardship in Maine." These proposed changes would amend 38 MRSA §1672, sub-section 4A(3) to include statutory consumer awareness goals to measure effective education and outreach and would create a process for surveying, reporting, and evaluating those efforts.
3. Ensure programs can continue to be implemented efficiently by require bi-annual submission of a stewardship plan by the producer or stewardship organization and subsequent department review and approval authority.
4. Include a penalty provision to provide the department with the necessary enforcement authority to ensure the goals are met.
5. Include fee authority for the department to cover administrative costs of program implementation.
6. Allow the department adequate time to review and approve a proposed product stewardship plan. The current proposed language allows 20 business days for department review; we recommend this be extended to 30 days.
7. We recommend the changes proposed in Appendix B for "38 MRSA §1772. 1: Policy, Report" read "the report submitted under this section shall include updates on the performance of existing product stewardship programs" and that the deadline remain at

January 15 to ensure the legislative calendar can accommodate proposed statutory changes.

In closing, we support the Department's apparent movement to a more focused and comprehensive review of existing product stewardship programs and desire to improve the planning and reporting process for new product categories. We feel the proposed legislative changes are a good start, but require stronger departmental authority to establish and enforce appropriate performance goals. Thank you for the opportunity to comment. We request that these comments be submitted to the Legislature with the 2013 report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Abby King', with a stylized, cursive script.

Abby King  
Policy Advocate  
Natural Resources Council of Maine



# Product Policy Institute

Comments of Matt Prindiville, Associate Director, Product Policy Institute  
To the Maine Department of Environmental Protection  
On the 2013 report, "Implementing Product Stewardship in Maine"

January 14, 2013

George MacDonald  
Director, Division of Sustainability  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, ME 04333-0017  
George.macdonald@maine.gov

Dear Mr. Mac Donald,

My name is Matt Prindiville. I live in Rockland, Maine, and I'm the Associate Director for the Product Policy Institute. We are a national research and policy organization working to make products and packaging more sustainable. For the past decade, we have been the leading public interest voice advocating for extended producer responsibility (EPR) in the United States. We have helped develop and support local government product stewardship councils in nine states. We also founded and coordinate the CRADLE2 Coalition, [www.cradle2.org](http://www.cradle2.org), a national network of public interest groups working for comprehensive recycling for products and packaging, which includes four organizations from Maine.

Prior to joining PPI, I worked as the Clean Production Project Director for the Natural Resources Council of Maine, where I helped pass five EPR laws for electronics, mercury-containing products and the framework product stewardship law, to which the report pertains. I have produced comments for the last two product stewardship reports and would like to submit the following for review by the Department and the Committee on the Environment and Natural Resources in the Maine Legislature.

- 1. The report is significantly improved over last year's analysis, and includes some thoughtful minor improvements to the framework law.** Unlike the previous year's flawed study, the 2013 report discusses the benefits of product stewardship, provides constructive analysis, and outlines several concrete recommendations for improving the Department's oversight of product stewardship programs. The streamlining of DEP reporting requirements into the one annual report is one example.

**2. It is unclear why the report does not recommend any new product categories for consideration.** The American Coatings Association (ACA), representing paint manufacturers, would like to bring their product stewardship legislation to Maine. There was virtually no opposition to this bill when it was passed in Oregon, California, Connecticut and Rhode Island. The Department included paint legislation in its 2011 report. Department staff and the administration should work cooperatively with ACA to bring this program to Maine, which could save Maine municipalities millions of dollars in paint disposal fees. In addition, the alkaline battery industry is developing an industry-supported product stewardship program, which requires implementing legislation. The Department should have at least included some analysis and recommendations related to these non-controversial industry bills in the report.

- 3. As part of the stated goals of “greater efficiency and effectiveness (pg. 1),” the Department should amend the producer requirements to:**
- a. Institute metrics to determine consumer awareness of the availability of product stewardship programs, and
  - b. Create convenience standards to ensure that all Maine people have appropriate access to them.
  - c. Establish recycling goals and timelines to ensure continuous improvement and robust performance.

The new language (page 4: subsections 1.A. and 1.B.) stipulates broad goals relating to convenience and outreach/education, but does not establish any meaningful metrics for determining if these goals have been met. Increasingly, product stewardship legislation includes measurable outcomes to determine the success of the programs in question.

**4. As Maine’s bottle bill clearly meets the definitions of a product stewardship law, the report should include the beverage container recycling program in the product stewardship report and relevant web pages, and include beverage containers in the statewide recycling rate.** This would also support efforts to standardize this data nationwide.

**5. The twenty day calendar review process by the Department (pg. 6, subsection 8) is far too short to conduct a meaningful analysis of producer plans.** It should be removed from the draft language or amended to provide an appropriate length of time for review (at least 60 days).

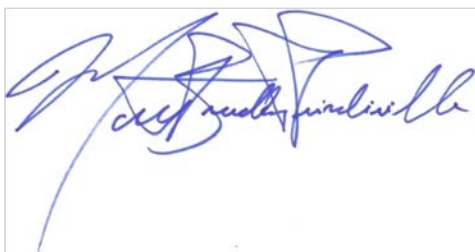
**6. If the Department plans to streamline reporting requirements for product stewardship programs into one annual report, then the Department should be required to report annually.** Right now, the language stipulates that the Department “may” submit a report annually (pg.7, subsection 1). We believe this language should be amended to “shall” submit a report. However, extending the date for submission of the report to the ENR Committee by one month is problematic given the compressed time frame for consideration by the Committee.

7. **It is unclear why the Department is recommending repealing the retailer take-back requirement for cell phones.** If the program is successful, nearly all retailers are happily complying with this requirement, and there are no significant complaints, why remove it?
8. **While the thermostat recycling rate has significantly improved since the addition of the \$5 bounty in 2007, and Maine's per-capita thermostat recycling rate is the highest in the nation, it has remained relatively flat over the last four years, and is nowhere near approaching the goals laid out in the original legislation.** Since 75% of the removed thermostats are thought to come from HVAC technicians, NEMA should conduct a survey to determine technician awareness and access to the program.
9. Lastly, as part of the process outlined in the framework legislation, **we believe the Department should be soliciting information on new potential product categories, helping the Legislature understand what products are being brought under EPR programs throughout the rest of North America, and determining what products are most important to Maine municipalities and citizens.** The information regarding product stewardship in North America is readily accessible through the Product Stewardship Institute's and Product Policy Institute's web sites.

Thank you for the opportunity to provide these comments. We appreciate the good work of the Department in advancing product stewardship in Maine to protect our environment and grow our economy.

I would be happy to answer any questions that the Department or Committee members may have. I can be reached at 207-902-0054, or [matt@productpolicy.org](mailto:matt@productpolicy.org). I would also be willing to draft or suggest legislative language related to my comments.

Best Regards,

A handwritten signature in blue ink, appearing to read "Matt Prindiville", is written over a light blue grid background.

Matt Prindiville, Associate Director  
**Product Policy Institute**  
87 Pleasant Street  
Rockland, ME 04841



**National Electrical Manufacturers Association**  
1300 North 17<sup>th</sup> Street, Suite 1752  
Rosslyn, VA 22209  
703-841-3249  
Fax: 703-841-3349  
mar\_kohorst@nema.org

**DATE:** January 14, 2013  
**TO:** George MacDonald, Director  
Division of Sustainability  
Maine Department of Environmental Protection  
**FROM:** The National Electrical Manufacturers Association (NEMA)  
**RE:** NEMA Comments on Maine DEP Report, "Implementing Product Stewardship in Maine," dated January 2013

---

The National Electrical Manufacturers Association (NEMA) is the primary trade association representing the interests of the US electrical products industry. Our 450 member companies manufacture products used in the generation, transmission, distribution, control, and end-use of electricity, constituting the very foundation of the worldwide infrastructure for supplying power.

Most electro-industry products are long lived and used in commercial and industrial settings. Some, however - such as household lamps, batteries, and thermostats - are consumer oriented and sold primarily for residential applications. Several of these have been the focus of product stewardship laws in Maine and our members have a long history of working with Maine legislators and regulatory authorities on the development of these laws and the programs they authorize.

NEMA therefore appreciates the opportunity to comment on the latest version of "Implementing Product Stewardship in Maine," issued by the Maine Department of Environmental Protection (DEP) pursuant to the 2010 Maine product stewardship law (Title 38, chapter 18, 38 MRSA §1771-1775). We have enjoyed an amenable working relationship with DEP staff in 2012 and look forward to continued discussions on how best to maintain the success of our stewardship programs. Our comments on the report are presented below.

### **General Comment**

NEMA is perplexed by the change in emphasis in the DEP report relative to the 2011 version, wherein DEP reported that its review of existing state programs revealed that ". . . *there is opportunity to improve recycling rates while reducing costs*" and announced its intention to "*collaborate with industry groups where possible, and encourage public participation and cost-effective efforts.*"<sup>1</sup>

This notion of collaboration is mostly absent from the latest report, which centers on a proposal to expand 8 MRSA §1771-1775 to incorporate specific components of product stewardship

---

<sup>1</sup> "Implementing Product Stewardship in Maine – 2012 Report to the Joint Standing Committee on Environment and Natural Resources, Jan. 16, 2012



programs. Noting that the “. . . *framework law did not go far enough*,” the Department proposes to add “*basic program components, requirements for a product stewardship plan, the timeframes for submission of plans once a product is identified, and the department’s obligations for reviewing those plans.*”

If enacted, this proposal would result in a more comprehensive, costly, and prescriptive framework for the product stewardship programs that eventually would be mandated through legislation for designated products. Obligations on manufacturers would increase under this proposal, which contains no mention of the role of other stakeholders in achieving the state’s overall goals for product stewardship.

NEMA’s response to this proposal is to affirm our industry’s support for product stewardship<sup>2</sup> and reiterate that a rigid, one-size-fits all, Extended Producer Responsibility (EPR)<sup>3</sup> approach that would be established by this amendment is not suitable for all products. EPR does not account for the vast differences between products in terms of volume of sales, product size and fragility, hazardous material content, system of distribution, product life expectancy, recycled value, market economics, and other critical factors. Given all these variables, a more logical and efficient state policy would stress flexibility and focus on assigning (and enforcing) appropriate responsibilities on all parties that profit and benefit from a product.

### **Comments on Appendix A - §1773**

#### **Section 5(a) – Program Components**

- Stewardship plans must describe how the plan “*will be convenient and adequate to serve the needs of all entities*,” and also “. . . *how the convenience and adequacy of the collection program will be monitored and maintained.*” These entirely subjective terms are not defined and thus leave DEP with immense discretion in interpreting them. NEMA suggests that this section be modified to describe a collaborative process for defining such concepts in an appropriate and meaningful context.
- When reporting on their programs, manufacturers will have to evaluate the “*convenience of collection and the effectiveness of outreach and education . . .*” Again, there are no criteria for determining what constitutes ‘convenient’ and ‘effective,’ thus raising the specter of ongoing contention between manufacturers and the Department on programs can realistically expect to achieve.
- The amendment would further require that “. . . *every two years, the methodology and results of an assessment of the effectiveness of education and outreach efforts must be completed by a third party.*” This adds an unnecessary cost burden to programs, not to mention another source of contention concerning the choice of third party organizations and the robustness of their findings. NEMA suggests this requirement be deleted.

---

<sup>2</sup> See NEMA “Statement of Principles on End-of-Life Management of Electrical Products,” Nov. 2009, available at [http://www.nema.org/gov/env\\_conscious\\_design/upload/NEMA\\_EOL\\_Mgmt\\_STATEMENT\\_OF\\_PRINCIPLES.pdf](http://www.nema.org/gov/env_conscious_design/upload/NEMA_EOL_Mgmt_STATEMENT_OF_PRINCIPLES.pdf)

<sup>3</sup> In the introduction to the report, DEP states that product stewardship “. . . *also may be referred to as ‘extended producer responsibility.’* . . .”. These terms are not synonymous, however. See <http://productpolicy.blogspot.com/2012/04/consensus-definitions-for-epr-and.html>

- Subsection 5(A)(11) appears to acknowledge the possibility that manufacturers will recover costs of program operation through a per unit fee charged to consumers.<sup>4</sup> This provision, while well meaning, fails to comply with the state action doctrine and is therefore insufficient to authorize the use of a fee by manufacturers to fund a product stewardship program. Any effort by manufacturers to do so would risk violation of federal antitrust regulations.

#### **Comments on Appendix B: Mercury Added Thermostats**

- Three NEMA member companies formed the non-profit Thermostat Recycling Corporation (TRC) in 1998 to facilitate proper disposal of mercury-added thermostats nationwide. The TRC is the only program of its kind and serves as the vehicle through which manufacturers comply with 38 MRSA §1665-B of Maine law. On pg. 12 of the report, DEP states that “. . . *TRC has yet to submit an education and outreach plan, as required, for 2012.*” This is inaccurate insofar as there is no requirement in the statute for submission of an education and outreach plan to the DEP or any other state entity.

Please contact us at your convenience if you have questions or concerns about these comments.

#### **Contact**

Mark Kohorst  
Senior Manager, Environment, Health & Safety  
NEMA  
1300 N. 17<sup>th</sup> Street  
Suite 1752  
Rosslyn, VA 22209  
703-841-3249  
703-841-3349 (Fax)  
[mar\\_kohorst@nema.org](mailto:mar_kohorst@nema.org)

---

<sup>4</sup> This financing mechanism is embodied in legislation passed in several states to govern collection and recycling of used paint, as well as carpet.

Contents lists available at [SciVerse ScienceDirect](#)

## Waste Management

journal homepage: [www.elsevier.com/locate/wasman](http://www.elsevier.com/locate/wasman)

## Examining the concept of convenient collection: An application to extended producer responsibility and product stewardship frameworks

Travis P. Wagner\*

Department of Environmental Science, 106 Bailey Hall, University of Southern Maine, Gorham, ME 04038, USA

## ARTICLE INFO

## Article history:

Received 16 January 2012

Accepted 19 June 2012

Available online xxxx

## Keywords:

Waste collection

Recycling

Extended producer responsibility

Product stewardship

Convenience

Municipal solid waste

## ABSTRACT

Increasingly, Extended Producer Responsibility (EPR) and Product Stewardship (PS) frameworks are being adopted as a preferred policy approach to promote cost-effective diversion and recovery of post-consumer solid waste. Because the application of EPR/PS generally requires the creation of a separate and often parallel collection and/or management system, key to increasing the amount of waste recovered is to maximize the convenience of the collection system to maximize consumer participation. Convenient collection is often mandated in EPR/PS laws, however it is not defined. Convenience is a subjective construct rendering it extremely difficult to define. However, based on a dissection of post-consumer collection efforts under a generic EPR/PS system, this paper identifies and examines five categories of convenience – knowledge requirements, proximity to a collection site, opportunity to drop-off materials, the draw of the collection site, and the ease of the process—and the various factors of convenience within each of these categories. By using a simplified multiple criteria decision analysis, this paper proposes a performance matrix of criteria of convenience. Stakeholders can use this matrix to assist in the design, assessment, and/or implementation of a convenient post-consumer collection system under an EPR/PS framework.

© 2012 Elsevier Ltd. All rights reserved.

## 1. Introduction

Two innovative policy approaches designed to promote cost-effective diversion and recovery of post-consumer solid waste are increasing in popularity (Product Policy Institute, 2012): Extended Producer Responsibility (EPR) and Product Stewardship (PS). Whereas EPR identifies end-of-life (post-consumer stage) management of a product as the primary responsibility of producers, PS promotes the sharing of responsibility among various stakeholders (designers, producers, sellers, users) involved throughout the life-cycle of a product (Nicol and Thompson, 2007). With EPR/PS frameworks, responsibility generally is assigned to a specific waste type (e.g., automotive batteries, fluorescent lamps) or a class of waste (e.g., beverage containers, electronic waste). Examples of EPR legislation include the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive and associated Restriction of Hazardous Substances (RoHSs) and Germany's "Green Dot" packaging program (McKerlie et al., 2006). Examples of PS legislation ("shared responsibility") include the USA state of Maine's e-waste management program (Wagner, 2009) and is the framework for most beverage deposit/refund programs (McKerlie et al., 2006). A catalyst for the increased interest in EPR- and PS-based

laws is the ability to shift economic responsibility for collection and/or subsequent management away from local governments and onto producers and other responsible parties.

Both frameworks are dependent on consumer participation. Consumers, who generate the waste, must sort and segregate the material, store it, and then transfer it to the curbside or more likely transport it to an offsite collection site to place it in specifically designated areas or containers. In essence, a separate, parallel collection and management system is necessary. Compared to simple disposal or comingled recycling, such as single stream recycling, EPR/PS impose additional efforts on individuals regarding material segregation and drop-off. These additional efforts are especially relevant when EPR/PS laws are applied on a waste-by-waste basis. Thus, subject wastes (e.g., fluorescent lamps) must be sorted/segregated, transported, and dropped-off under the program-specific management scheme for the particular waste in order to determine and assess economic responsibility. A parallel collection system is inherently inconvenient to the consumer. As discussed in this paper, each step in the process under the control of the consumer has varying degrees of inconvenience, which is the time and effort necessary to participate in the waste segregation, transportation, and drop-off process. The relevance of this pronouncement is simple; the more inconvenient each step is, the lower the likely participation rate and thus the lower the diversion/recovery rate.

\* Tel.: +1 207 228 8450; fax: +1 207 780 5251.

E-mail address: [twagner@usm.maine.edu](mailto:twagner@usm.maine.edu)

Convenience of a waste collection and recycling program is one of the most important non-socioeconomic determinants in whether an individual will recycle, or more accurately, if they will sort/segregate materials, which materials will be segregated, how much of the material will be segregated, how often segregation will be performed, and how much and often will the material be transported to a collection site (see for example, [Peretz et al., 2005](#); [Perrin and Barton, 2001](#)). While various studies stress the importance of convenience, there is little in the literature that explains what convenience specifically means with regards to recycling and managing waste. Even within the knowledge gap as to what constitutes convenience, USA states continue to adopt EPR/PS frameworks and mandate that collection systems be “convenient” ([Product Policy Institute, 2012](#)).

Research has supported that curbside collection is the most convenient collection system for households. However, because curbside collection is more expensive; time-consuming to design, implement, and operate; and special provisions would be necessary for curbside collection of hazardous, fragile, or low economic value materials; offsite drop-off remains attractive to public solid waste managers. Thus, for governments seeking to increase the household collection rate of materials through EPR/PS systems, a paramount goal should be to increase the convenience of the entire process, from generation to segregation to drop-off to maximize the potential of EPR/PS. While EPR/PS programs have developed fairly rapidly, insufficient attention has been made to understand and thus ensure that the resulting collection systems are as convenient as possible.

Legislation that requires convenience seems to gain no more traction by using the “convenience” term; minimum requirements for a convenient collection system must be explicitly laid out in the applicable law or regulation. Yet the trend to include “convenience” as a general legal requirement suggests that the concept has an intuitive or inherent value to legislators, regulators, waste managers, consumers, and stakeholders. Thus, a need exists to establish particular criteria to satisfy the intent of its use. To be sure, it is an extremely difficult term to define because convenience is a subjective construct. Regardless, can the concept of convenient collection be sufficiently operationalized to be meaningful? This is a critical challenge to overcome if the implementation of EPR/PS is to be successful.

The aim of this paper is to examine critically the concept of convenience within the context of EPR/PS frameworks using four study objectives. First, this paper discusses the adoption of EPR/PS laws in the USA and the importance of convenience with regards to these laws. Second, the concept of convenience is examined by identifying, describing, and analyzing the various elements of convenience within general recyclables collection. Third, this paper discusses examples of political jurisdictions in the USA that adopted requirements for convenient collection systems in EPR/PS laws and regulations. The fourth objective is to propose a performance matrix with the ordering of factors of convenience to help solid waste managers, policymakers, and producers assess the convenience of a collection system and to advance the research of convenient collection in all aspects of waste management.

## 2. Background

### 2.1. Adoption of EPR/PS laws

The European Union, USA states, and Canadian provinces increasingly are adopting EPR and PS, especially for WEEE and e-waste ([Mayers, 2007](#); [McKerlie et al., 2006](#)). While in the USA, EPR is the foundation for many beverage container deposit/refund programs, which have been in existence for decades, EPR for

non-beverage containers is comparatively newer. According to the [Product Policy Institute \(2012\)](#), 72% of all EPR/PS laws in the USA have been enacted since 2004 primarily for batteries, electronics, mercury thermostats, and cell phones, which have driven the popularity of EPR/PS. Currently, in the USA alone, EPR/PS laws had been enacted in 32 of the states. Given the appeal and popularity of these laws, and, more importantly, the ability to shift economic responsibility away from local governments and taxpayers, EPR/PS are being expanded and/or applied to other difficult-to-recycle-waste such as fluorescent lights, mattresses, mercury thermostats, liquid paint, carpet, medical sharps, and so forth. Adopting EPR/PS also can allow for sustaining or even expanding recycling programs in the face of economic downturns. In essence, state and local governments have found a legitimate rationale for transferring some of its historical waste management responsibility and costs onto responsible parties, which are involved in the manufacturing, importing, and selling of a specific product. While the focus of EPR/PS laws have been on sustainable management of post-consumer waste, a popular justification for these laws is their potential influence on the adoption of source reduction at the pre-consumer stage for upstream wastes through Design for Environment (DfE) or Design for Recycling (DfR) ([Calcott and Walls, 2005](#)). Designing the recyclability of a product with consumer convenience in mind would have the potential to increase collection and participation rates.

Various US states, including Connecticut and Maine, mandate that collection systems be convenient, which illustrates the importance of convenience in EPR/PS legislation. Yet, these laws fail to define or explain what convenience is. For example, Connecticut requires municipalities to submit a written plan for approval, which describes how the municipality will give priority to convenience and accessibility in providing collection and recycling opportunities to its residents. However, neither convenience nor accessibility are defined (Regulations of Connecticut State Agencies, Sec. 22a-638-1(m)(2)(A)). Similarly, Maine's law on household mercury-added lamps requires manufacturers of lamps to establish a recycling program that must include convenient collection sites throughout the state; but again, no definition or guidance is provided in the law (38 MRSA §1672(4)(A)). The WEEE also directs that “convenient collection facilities should be set up for the return of WEEE” but again, no definition is provided.<sup>1</sup>

Given the impact of convenience in EPR/PS programs, namely that the creation of inconvenient requirements promotes disposal over recovery ([Wagner, 2011](#)), it is not surprising that “convenience” is being written into laws as a way to ensure program success. However, “convenience” as written is not necessarily linked to empirical criteria as to what constitutes convenience.

### 2.2. Convenience

Convenience is a subjective construct. As noted by [Yale and Venkatesh \(1986, p. 405\)](#), “Convenience apparently is many things to many people and it may vary among, and within, individuals...” Convenience is highly dependent on the individual, influenced by a variety of factors categorized by [Yale and Venkatesh \(1986\)](#) as economic, temporal, spatial, psychological, sociological, philosophical, and situational. Convenience is based on the cost to engage in an action or behavior through time-utilization ([Yale and Venkatesh, 1986](#)). According to [Baksi and Long \(2009\)](#), the time and effort to participate in recycling is an intrinsic cost to the individual, a disutility; the magnitude of the intrinsic cost is unique to each individual. As noted by [Boldero \(1995\)](#), when the cost becomes too

<sup>1</sup> Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE), Sec. 15.

high, individuals will not recycle even when there is an environmental or community benefit. Householders who perceive minimal time expenditure to recycle are more likely to recycle (Hornik et al., 1995; Jakus et al., 1997).

There is extensive literature available on who recycles. Many studies focus on socio-economic factors (see for example, Vining and Ebreo, 1990; Jakus et al., 1997; Ludwig et al., 1998; Ebreo and Vining, 2000; Domina and Koch, 2002; Sidique et al., 2010; Wagner, 2011; and Bouvier and Wagner, 2011). As noted by Peretz et al. (2005), in nearly every analysis, convenience is statistically significant. While convenience is often defined as a significantly influential factor, little explanation is given as to what is specifically meant by convenience or qualitative proxies are used such as, separation and cleaning requirements, having sufficient time, storage demands, distribution of free containers, or collection frequency as measures of convenience (see for example, Abdelnaser et al., 2011; Ongondo and Williams, 2011; Sidique et al., 2010; Peretz et al., 2005; Reschovsky and Stone, 1994; Judge and Becker, 1993; Everett and Peirce, 1993; Vining et al., 1992). While some individuals will engage in seemingly inconvenient requirements because they believe it is the “right thing to do”, others do so because of social norms, and still others will not engage (Hornik et al., 1995). Yet as De Young (1989) argues, positive attitudes towards recycling are not as important as perceptions of convenience. A recycling-minded person is more likely to recycle, but the opportunity must be convenient and/or available. Positive attitudes towards recycling affect decision-making, but less so than convenience factors such as knowledge requirements (Wagner, 2011; Hornik et al., 1995), distance to a collection site (Best, 2009; Wagner, 2011; Sidique et al., 2010), or the existence of standard, institutionalized recycling systems (Derksen and Gartrell, 1993).

While there is general recognition that convenience is a highly influential factor affecting participation in recycling, the factor is insufficiently defined. Individuals have different constructs of convenience. Clearly there is a need to better understand the multiple steps involved in participation so as to identify the specific elements that affect convenience. Only after completing this step can specific criteria of convenience be developed resulting in relevant and more tangible criteria that can be adopted and implemented.

### 3. Elements of convenience

Assuming an individual “agrees” to participate in the process, there are various steps involved as shown in Fig. 1. If the material will not be collected at curbside, there are additional steps involved. The primary difference between curbside and non-curbside collection is the responsibility of transporting the materials to the collection site. An individual participating in a “recycling” program must engage in the various steps: know the requirements, sort/segregate the material, process the materials (if necessary), store the material, transfer the material to the curbside or transport the material off-site and drop-off the material.

#### 3.1. Knowledge requirements

Waste materials covered under an EPR/PS program (e.g., liquid paint, e-waste, fluorescent lights) must be sorted and segregated and brought to the curbside, or more likely an offsite, specially designated collection site. An individual must obtain knowledge about which materials are covered, if and to what extent segregation is required; when collection occurs for curbside collection and for non-curbside collection programs; where, when, and how materials can be dropped off. Obtaining knowledge requires time. Saphores et al. (2006) found that familiarity with recycling

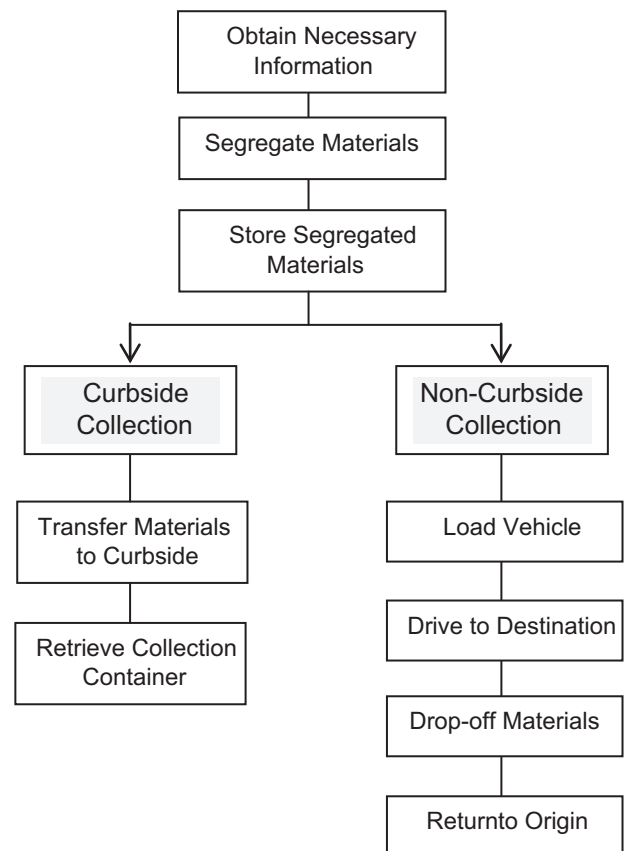


Fig. 1. General steps for generators handling waste under EPR/PS frameworks.

increases the willingness to drop-off e-waste because individuals do not have to invest time in determining requirements. Consequently, additional knowledge is required to know the distinction and initial steps. Obtaining this knowledge requires effort to research what the acceptable materials, segregation requirements, drop-off sites, and so forth are. As found by Wagner (2011) in a study of fluorescent lighting, locating and comprehending user-friendly waste drop-off/recycling information sufficient to easily identify the process, site, and hours of operation for drop-off sites is not sufficiently available in the USA. An individual who must invest considerable effort and time to initiate the process will less likely do so. Obtaining the additional information, assuming it exists and is easy-to-understand, however, must be convenient; because information is unique to the waste materials under EPR/PS.

#### 3.2. Proximity to the collection site

Proximity refers to the distance that must be traveled from the point of generation to the collection site, which is a measure of efficiency (Yale and Venkatesh, 1986). The physical proximity to a recycling drop-off site has been found to be highly influential in recycling participation because of effort and time requirements (Abdelnaser et al., 2011). Recyclers will visit a drop-off site more frequently if it is closer (Sidique et al., 2010). The further one has to travel in distance, or the more time expended in traveling to drop-off of materials, the greater the inconvenience (Lin et al., 2011).

Varying degrees of proximity include the distance from the locus of generation in the home to in-home segregation and collection containers (in the kitchen, garage, etc.); home-to-curbside distances; distances to neighborhood collection sites; and distances to public and/or private collection sites. Curbside collection



overall is the most convenient recycling system for a household (Domina and Koch, 2002; Saphores et al., 2006; Jenkins et al., 2003; and Best, 2009) as it is designed to be less time consuming.

In contrast to curbside collection, the need to transport recyclables is far less convenient. In a survey by Ewing (2001), respondents admitted that they would recycle less if they had to drop-off materials compared to a current system of curbside collection. Collection sites in close proximity to the home increase the recycling participation rate (Reid et al., 1976). The need to transfer recyclables only a few blocks has been seen as a deterrent to recycling (Margai, 1997), but Jenkins et al. (2003) found that adding local drop-off sites can increase collection rates for some conventional recyclables because time requirements for transportation are reduced and home storage requirements may be reduced. They theorize that decreasing the distance has the potential to increase the frequency of drop-offs, which in turn would reduce households' storage challenges. According to a study by Butler and Hooper (2000), the average pedestrian trip from house to a recycling drop-off collection site was 1 km. Beyond this distance, access to a car becomes important, but drop-off trips by car similarly decreases with increased distances. Saphores et al. (2006) found an increased willingness to drop-off e-waste if a site is located within 5 miles (8 km). Knudsen (2010), in a survey of participants in a special e-waste collection event in the US state of Indiana, found that 55% drove less than 5 miles (8 km) and an additional 27.9% drove between 6 miles (9.6 km) and 10 (16 km) miles. The driving and physical effort can be problematic for older adults as evidenced by their lower participation rate at drop-off sites (Domina and Koch, 2001).

Proximity cannot be measured by distance alone, but must be assessed as a time expenditure. This will include traffic congestion, traffic controls (lights, intersections, speed limits, etc.), and weather, which can increase the time expenditure even for short distances.

Obviously offsite transport requires access to transportation. In reality, this means private transportation. Public transportation can be an option, but the distance to the bus/tram stop, the frequency of options, and the time of travel could be too time consuming. This of course assumes that the collection site is served by public transportation. And, realistically, public transportation is not viable for heavy and bulky items such as televisions, computer monitors, carpet, and mattresses.

### 3.3. Opportunity to drop-off materials

Yale and Venkatesh (1986) discuss the importance of "availability" as a factor in convenience, which refers to the opportunities to engage in an activity. Increasing the opportunities to drop-off materials, by offering longer evening and/or weekend hours and increasing the number of days, increases convenience. Driedger (2001) observed that matching the hours a collection site is open to when users would likely use a site is critical to participation. Relying on municipal transfer facilities for traditional drop-off may not be highly convenient depending on the days and times they accept materials. Transfer facilities that operate during traditional business hours would be inconvenient for most individuals. For example, Bouvier and Wagner (2011) found a positive correlation between the number of days a municipal transfer facility was open and the per capita collection rate of e-waste. Increasing the opportunity of drop-off materials by expanded days and times increases convenience as individuals have more opportunity or flexibility to participate. A temporary collection site, such as a special collection event, reduces participation because of the inconvenience due to an inflexible schedule (Lin et al., 2011). Unmanned facilities offering unlimited access would be far more convenient from an opportunity perspective, but they can become disorderly,

unsanitary, and a magnet for scavenging and vandalism, which are deterrents to recycling (Margai, 1997).

Opportunity or availability to drop-off materials can be limited by the authorization to do so. For example, some municipal-level governments limit access to legal residents, property owners, and/or permit holders. Some retail take-back programs impose drop-off restrictions based on residency status and/or origin of purchase such as the San Luis Obispo County, California retail take-back program.

### 3.4. Draw of the collection site

There is a paucity in the literature on the draw (i.e., desirability) of recycling collection sites. There is, however, considerable research in the consumer preference literature on consumer willingness to travel for goods and services (see for example, Brunner and Mason, 1968; Hubbard, 1978; Gehrt and Yale, 1993; Brooks et al., 2004). In applying consumer preference research, an important aspect of consumer convenience is what Yale and Venkatesh (1986) refer to as "accessibility", which includes the availability of services at the destination. This in essence is the draw, or desirability of a specific site. The greater the draw, meaning the more desirable a site is, the greater the convenience. An example of high draw is shopping malls, which simultaneously provide multiple shopping and entertainment options and can offer important public service options such as post offices, motor vehicle bureaus, and libraries. As noted by Butler and Hooper (2000), the more services offered at a drop-off site, the farther a householder is willing to travel to recycle.

The draw, especially the availability of other services, is highly relevant regarding the need for a dedicated or special trip, which is highly inconvenient. The draw of a site is an important component in reducing the need for special trips to recycle and therefore increased convenience. Speirs and Tucker (2001) surveyed individuals at grocery stores and found that a majority of those who make trips by car to recycle their household waste combined recycling with shopping, which agrees with Ball and Lawson (1990). In contrast, less than half of recyclers made special trips to recycling facilities (Speirs and Tucker, 2001). There is increased participation when individuals combined recycling with a more desirable activity. Consequently, applying consumer preference research suggests that recycling drop-off sites should be linked, or co-located to a rewarding activity or desirable destination such as shopping, recreation, or national, state, or local government services to increase convenience.

An additional factor of the draw of a collection site is the imposition of end-of-life (EOL) fees. Although EOL fees in themselves are not a direct factor of convenience, unless they are part of a transaction (e.g., paperwork) requirement necessitating a consumer's time, EOL fees clearly affect the draw of a site, which is a factor of convenience. The imposition of EOL fees can be enough of a disincentive to accept certain levels of inconvenience for individuals seeking to deliver unwanted materials. "No charge to recycle" was reported as very important by 74.6% of survey respondents participating in a special e-waste collection event in Indiana (Knudsen, 2010). Bouvier and Wagner (2011) found a negative correlation between the imposition of EOL fees and the collection of e-waste (i.e., televisions and computers). Their results found that the higher the EOL fee for e-waste the lower per capita collection of e-waste.

### 3.5. Ease of the process

The ease of process at the generation site, to reach the collection site, and at the collection site each can entail factors of inconvenience. Each of these various factors can require additional time,

effort, or resources of the individual. [Ongondo and Williams \(2011\)](#) found that ease of process was one of the more dominant factors in university students in the United Kingdom using particular take-back programs for recycling cell phones.

### 3.5.1. Efforts at the generation site

The three primary elements of effort at the generation site are sorting/segregation, processing, and storage requirements. The amount of time required to sort and then segregate materials is correlated to convenience; segregation requirements discourage some potential recyclers ([Pieters, 1991](#)). [González-Torre and Adenso-Díaz \(2005\)](#) found the need to segregate coupled with distance to travel (in this case by foot) can affect recycling. Processing, such as cleaning, rinsing, or label removal can be inconvenient ([Martin et al., 2006](#)). Because of the fragility of some wastes (e.g., fluorescent lighting) and the special requirements for EPR/PS “controlled” materials, segregation is required therefore necessitating additional time and effort by the consumer.

Storage, internal or external, is required to accumulate sorted/segregated materials prior to the collection day or drop-off event. The lack of sufficient storage has been cited as a constraint by rural households dependent on drop-off recycling ([Jakus et al., 1997](#)), by non-recyclers ([Martin et al., 2006](#)), by residents of multi-unit dwellings ([Ando and Gosselin, 2005](#)), by renters ([Lansana, 1992](#)), and a challenge to college students living on campus ([Hansen et al., 2008](#)). The frequency of collection can reduce storage constraints and thus the inconvenience ([Martin et al., 2006](#); [Boldero, 1995](#)). Although storage capacity is not necessarily a significant problem if the material is a small amount and can be stored for long periods of time, a separate collection container may be necessary to prevent breakage, which increases storage needs. The amount of storage required also is a function of the number of different wastes being accumulated and segregated. The storage factor relates to convenience because of physical access and the need to transport the materials if storage becomes a problem, which may necessitate more frequent trips to collection sites.

### 3.5.2. Efforts to reach the drop-off/collection site

In curbside collection systems, convenience may be affected by barriers to placing containers at the curb, such as at homes where moving the container up and down stairs may prevent participation ([McDonald and Oates, 2003](#)); longer lengths of stairs would likely be considered more inconvenient. Other physical barriers may include snow banks in colder climates. For non-curbside systems, the physical effort needed will depend on the volume and weight of the item. While a single compact fluorescent lamp is very light, other items can be quite heavy. For example, in Maine’s e-waste collection program, the mean weight of televisions was 25.19 kg and for computer monitors 14.44 kg ([Wagner, 2009](#)). Such items are beyond the physical capability or desires of many people.

An additional consideration is access by an individual with a physical disability, that is, sufficient accommodations to allow an individual with a physical disability access to drop-off material such as compliance with the Americans with Disabilities Act.<sup>2</sup> This issue is not limited to individuals with physical disabilities, but also elderly or other individuals that may lack sufficient physical strength and/or agility.

### 3.5.3. Effort at the drop-off/collection site

Upon arrival at a drop-off destination, an important factor of convenience is the ease of the drop-off process. As reported by [Knudsen \(2010\)](#), drive-through convenience was reported as very important by 74.5% of survey respondents dropping-off items at an e-waste collection event. There are potentially multiple factors of convenience during the actual drop-off phase: Does an individual have to wait in line to interact with an attendant? Does an individual have to demonstrate residency of the community to drop-off material? Does paperwork have to be completed? Is a fee charged? Do individuals who may have a physical disability have appropriate access? Do materials have to be placed in designated areas or containers? Are the containers easily accessible?

Additional elements affecting the ease of the drop-off process are predicated on the assumption that even short amounts of time spent in unpleasant situations – such as at an unsanitary drop-off site, or with unfriendly staff – can be perceived as difficult or inconvenient ([Margai, 1997](#)). Interpersonal effort spent dealing with crowded drop-off sites could act as a barrier to participation, which are common at special collection events. Similarly, short amounts of time exerting a large physical effort, such as emptying a recycling container or lifting a heavy, bulky item into a shoulder-high collection container, is inconvenient, especially for the elderly or other people possibly needing assistance.

The collection of an EOL fee can be also be a barrier. The need for proper forms of payment or the time required remitting and processing a payment can decrease the ease of the process increasing the disutility thus resulting in greater inconvenience.

As summarized in [Table 1](#), the primary elements affecting convenience can be grouped into the following five major categories: Knowledge Requirements (what someone needs to know to successfully engage in the activity), Proximity to the Collection Site-off (the distance and time to a drop-off site), Opportunity to Drop-off Materials (the days and hours-per-day a site will accept material), Draw of the Collection Site (the availability of other services or opportunities at the collection site), and Ease of Process (the effort and time expenditure necessary during generation, transportation, and drop-off).

## 4. Examples of convenience in current programs in the USA and Canada

As discussed previously, 32 states in the USA have adopted EPR/PS-based laws and regulations mandating convenience. A review of “convenience” clauses in various states’ beverage refund/deposit programs and e-waste legislation, the most dominant current applications of EPR/PS, and an informal survey of recycling professionals revealed no legal definition of the term. While the term “convenient” is not legally defined, wording found in some state laws and regulations provides a series of conditions that are designed to satisfy the intent of the term. These conditions are generally limited to describing methods of waste collection, such as mail-back programs, collection events, fixed collection sites, and the establishment of agreements designating secondary parties as waste collectors for producers. Many states also require a minimum number of collection sites by population thresholds. However, the mere existence of a collection system does not necessarily mean that the system is convenient, especially in large jurisdictions with low population densities and densely populated areas with travel challenges. Moreover, the criteria given are not always requirements, or do not function specifically to satisfy the “convenience” requirements. For example, in California, “there has been no need to provide a definition or clarification” since its use “does not differ from the commonly accepted use of the word” (K. Harris, personal communication, August 10, 2010). However,

<sup>2</sup> The Americans with Disabilities Act gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications.

**Table 1**  
Summary of major categories and factors of convenience.

Convenience categories				
Knowledge requirements	Proximity to collection point	Opportunity to drop-off materials	Draw of the collection point	Ease of process
<i>Convenience factors</i>				
<ul style="list-style-type: none"> <li>• Accessibility of information</li> <li>• What and how to sort/segregate</li> <li>• Where to bring materials</li> <li>• How to get to drop-off site</li> <li>• When (days and hours) to go</li> <li>• Acceptance requirements (e.g., residency status)</li> <li>• Drop-off procedures</li> <li>• Drop-off fees</li> </ul>	<ul style="list-style-type: none"> <li>• Distance: walking</li> <li>• Distance: vehicular</li> <li>• Degree of traffic congestion/control</li> <li>• Access to public transportation</li> <li>• Timing of public transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Days open</li> <li>• Hours open</li> <li>• Authorization to drop-off</li> </ul>	<ul style="list-style-type: none"> <li>• Retail centers</li> <li>• Non-retail services</li> <li>• EOL fees</li> <li>• Cleanliness, security</li> </ul>	<ul style="list-style-type: none"> <li>• Sorting/segregation requirements</li> <li>• Storage requirements</li> <li>• Processing/cleaning</li> <li>• Storage needs</li> <li>• Collection container type</li> <li>• Physical effort</li> <li>• Physical access</li> <li>• Staff interactions and assistance</li> <li>• Access to vehicle</li> <li>• Drop-off procedure</li> </ul>

this approach is not necessarily shared by all states, such as Hawaii, where the state's solid waste management coordinator believes that "having criteria to help clarify what is 'convenient' would be very useful from a regulatory standpoint" (J. Tosaki, personal communication, July 26, 2010). Table 2 presents examples of direct or indirect attempts by states at addressing convenience.

#### 4.1. Examples of mandating convenience

Some states are more explicit in establishing the intent of "convenience" without defining the term. For example, in its EPR regulations for electronics, the state of Washington requires that collection sites be staffed during operational hours, open at regularly scheduled hours, and open often enough to provide "adequate" service (Washington Administrative Code [WAC] §173 900-355(10)). Rhode Island and Oregon have similar requirements (R.I. Gen. Laws §23-24.10-9(b)(4); and Or. Rev. Stat. §459A.320(2)(d)). Michigan, Texas, and Missouri provide similar criteria that are sufficient to satisfy the "convenience" requirements, but are not required; they are provided merely as examples. Providing example criteria leaves the requirements open to interpretation as it is mainly suggestive guidance. Additionally, some of the regulations provide the criteria separately from any specific reference to the "convenience" factor. While Washington's criteria are specific, they are not tied to the overarching requirement that collection programs be convenient. Moreover, Washington state's regulatory agency in charge of administering the law, the Department of Ecology, has broad interpretive authority to determine whether any collection plan satisfies the undefined "reasonably convenient" requirement (WAC §173 900-355(13)).

A second convenience-related criteria often found in EPR laws is a requirement for producers to establish a minimum number of waste collection sites by geographic area or population. For example, in the state of Vermont, every county must have at least three permanent e-waste collection sites and every municipality with a population of 10,000 or greater must have at least one (Vt. Stat. Ann. title 10 §7552(b)(1)). New York, Washington, and Oregon all require at least one e-waste collection site per county, and at least one site per municipality with a population of 10,000 or greater. However, Washington state regulations allow manufacturers to limit collection services in rural areas to mail-back programs.

In contrast, Iowa has gone much further in setting convenience criteria in their regulations as well as through regulatory guidance. Iowa requires any retailer that sells products covered by the beverage container deposit law to also act as a redemption center (Iowa Administrative Code [IAC] §567-107). Additional redemption centers can be approved, and in some cases act as a designated redemption center for a nearby retailer that does not wish to pro-

vide a redemption service. In both cases, the redemption center must be "convenient" (IAC §567-107.4(1)(c)). One of the required criteria for redemption centers is that they be open at least 20 h per week, with at least 4 h between 6 p.m. and 10 p.m. or on a weekend (IAC §567-107.4(1)(i)). The regulations also stipulate that dealers accept containers at least from 7 a.m. to 10 p.m. unless the dealer's operating hours or shorter, or if they post a sign stating what hours redemption services are available. Guidance issued by Iowa's Energy and Waste Management Bureau further interprets the convenience requirement for redemption centers seeking certification.<sup>3</sup> Redemption centers must comply with the American with Disabilities Act or assist customers with special needs, and they must have staff available if reverse vending machines are used. Additionally, centers must be no more than 1 mile (1.6 km) from a dealer for which they are the designated center, and no more than ¼ mile (0.4 km) from public transportation, if available. Further interpretation by agency regulators includes a "10-min travel time policy" as an alternative to the 1-mile (1.6 km) interpretation, which has been useful in rural areas where travel time is shorter for similar distances in urban areas (B. Blum, personal communication, August 9, 2010).

#### 4.2. Examples of promoting convenience

Some programs are established based on the concept of convenience, but are not explicit as to what constitutes convenience. For example, San Luis Obispo County, California enacted a mandatory retail take-back program covering retailers that sell fluorescent lamps, household batteries, latex paint, medical sharps, and mercury-wall thermostats. The program is not a reverse logistics program in which materials brought to retailers are destined to be returned to the original producer. Instead, retail stores serve merely as collection sites; collected wastes subsequently are managed by the county government. The stated purpose of these ordinances is to "...enact a law that established a program that is convenient for consumers and the public..." (San Luis Obispo IWMA Ordinance #2008-1, sec. 1.(b)). There is no further discussion in the ordinance as to what constitutes convenience. However, the creation of this program increases convenience by decreasing travel distances to collection sites, increasing the opportunity in days and times to drop off materials, and increasing the potential draw of collection sites.

Another example is the collection system for recyclables in the Canadian province of Nova Scotia. In Nova Scotia, ENVIRODEPOTs™ were created to provide a province wide system of material

<sup>3</sup> This information was obtained from a memorandum dated December 15, 2004, written by Brian Tormey, Chief, Energy and Waste Management Bureau titled *Customer Convenience Criteria for Certifying "Approved Redemption Centers."*



**Table 2**  
Examples of convenience in EPR/PS laws and programs.

Convenience factors	Description	Example jurisdictions
Manned collection points	Collection points staffed during operational hours, open at regularly scheduled hours, and open often enough to provide adequate service	Iowa, Washington
Reasonable access to collection points	Minimum number of collection points per political jurisdiction (e.g., county), per population size, or distance to travel	New York, Oregon, Vermont, Washington, Nova Scotia
Retail take back	Increasing the number of drop-off options by mandating retailers to accept certain products they sell	San Luis Obispo County, California; Maine
Reduction of physical barriers	Compliance with Americans with disabilities act to ensure access to individuals with disabilities	Iowa
Mail-back programs	Encouraging or requiring the use of mail-back programs to improve access by underserved populations	Hawaii, Washington

drop-off centers, which accept and redeem beverage container deposits, but many also accept other materials including newspapers, paint, e-waste, cardboard, metal, automotive batteries, and so forth. The depots are licensed businesses run by independent contractors, which must be approved. There are 83 ENVIRODEPOTs™ in Nova Scotia; 87 percent of households are located within 20 km of an ENVIRODEPOT™ (Wagner and Arnold, 2008). Thus, convenience is promoted by decreasing travel times and increasing the draw of the facilities. This is implicit as the authorizing statute (S.N.S. Environment Act, 1994-95, c.1, s.1.) and implementing regulations (N.S. Solid Waste-Resource Management Regulations, O.I.C. 96-79), but neither explicitly mention convenience.

The above examples demonstrate that attempts have been made to indicate to a limited degree what is convenient or to create a program that promotes convenience. However, they do not define convenience. Based on the previous examination as to the multiple factors of convenience, the attempts by states and provinces are inadequate to provide meaningful direction to producers, consumers, and implementation agencies as to what specifically constitutes convenience. In short, there is a clear gap between what is convenient and the implementation of convenient collections systems.

## 5. Establishing criteria of convenience

A purpose of this paper was to examine the concept and factors of convenience with regards to EPR/PS controlled materials. Through this examination process, criteria could be developed to be used by solid waste managers, stakeholders, producers, and policymakers to assess convenience with regards to a particular material collection program and/or to provide guidance for those seeking to address convenience in laws and regulations.

To develop meaningful criteria, a simplified version of Multi Criteria Analysis (MCA) was used to sort the convenience criteria discussed in Section 3, which is presented in Table 3. The sorting of the criteria of convenience was subjective, but based on the identification of the previously identified and researched factors of convenience. Each factor was divided into three classifications focusing on a significant or high level or degree of effort, moderate degree of effort, and a lower degree of effort. The intent of this exercise was not to determine absolute levels of convenience but to present degrees of effort in the absence of empirical data. The five main columns in the table correspond to the five previously defined categories of convenience: Knowledge Requirements, Proximity to the Collection Site, Opportunity to Drop-off Materials, Draw of the Collection Site, and Ease of the Process. For this table, instead of a dichotomous factor of yes, it is convenient or no, it is not convenient, each factor was divided into three relative degrees of convenience (high, medium, and low). Ranking the factors is based on the author's assessment and judgment of the literature, some of which is not related to solid waste, but is from consumer preference research. Because this table knowingly was created

within a gap of directly applicable data, and therefore varying degrees of confidence, it is meant to be a guide—a framework – rather than a tenet.

The performance matrix table, as constructed has strengths and obvious weaknesses. A strength of the table is that for the first time, a comprehensive framework of convenience factors is presented. Thus, it provides a useful tool. A weakness, however, is that the factors, except for proximity, are qualitative and primarily subjective. An additional weakness is that in using the table, user judgment is required thus necessitating subjectivity. That is, in assessing or comparing different collection systems, the table will not provide a final score or other easily produced metric for assessment or comparison. Because the level of effort is generally determined by local conditions and requirements, the user is encouraged to apply information and knowledge based on site-specific demographics, culture, infrastructure, procedures, and the material. Thus, while the table provides crucial information, applying the factors still remains within the subjectivity of the user and waste materials. This aspect clearly identifies research needs; to better define/quantify the various factors for more objective application. This matrix table should be viewed as a starting site.

## 6. Conclusions

In many USA states and Canadian provinces, there have been concerted efforts in adopting and implementing EPR/PS-based laws for managing wastes. The potential economic benefits to local governments and individual taxpayers from EPR/PS laws are significant as these programs have the potential to divert and recover considerable amounts of waste materials with financial support from responsible parties. EPR/PS laws by necessity create parallel collection systems for subject wastes, which is inherently inconvenient: these laws seek to remedy this by mandating that collection systems be convenient; but there are no definitions and insufficient criteria. Convenience is extremely important with regards to these laws, but has not been addressed in a meaningful way.

The concept of convenience was examined within each step for a generator of waste to participate in an EPR/PS system. By increasing convenience, there is the potential to increase user participation and thus the amount of materials collected and recovered. This necessitated a thorough understanding of the typical waste generation, segregation, transport, and drop-off process of a consumer within an EPR/PS system to identify, describe, and analyze the various factors of convenience. This stage resulted in the creation of five major categories of convenience. These categories, and the various factors of convenience within each category, with a few exceptions, are subjective constructs. They are difficult to define and difficult to measure, although some can be measured through multiple proxies. While the subject of convenience is of increasing importance, it is understood that trying to objectify this subjective construct remains an extremely difficult task.

**Table 3**  
Matrix Table of convenience categories, factors, and rankings.

Knowledge requirements	Proximity to collection point	Opportunity to drop-off materials	Draw of the collection point	Ease of process
<i>High convenience</i>				
<ul style="list-style-type: none"> <li>– <i>Information</i>: minimal effort needed to obtain information about procedures, very current</li> <li>– <i>Directions to drop-off site</i>: easy to obtain</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Collection</i>: curbside</li> <li>– <i>Collection</i>: not curbside, but within walking distance (&lt;1 km)</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Opportunity</i>: open 7 days per week</li> <li>– <i>Opportunity</i>: open 24 h per day</li> </ul>	<ul style="list-style-type: none"> <li>– <i>EOL fee</i>: none</li> <li>– <i>Access</i>: no restrictions of use</li> <li>– <i>Options</i>: multiple, located at shopping center/mall</li> <li>– <i>Security/safety</i>: very safe, secure, clean, and orderly</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Collection</i>: curbside</li> <li>– <i>Sorting/segregation</i>: minimal required</li> <li>– <i>Processing/cleaning</i>: not required</li> <li>– <i>Material weight</i>: light</li> <li>– <i>Material volume</i>: small</li> <li>– <i>Collection containers</i>: easy to find, easy access</li> <li>– <i>Paperwork</i>: none</li> <li>– <i>Staff interaction</i>: none necessary</li> <li>– <i>Staff assistance</i>: available</li> </ul>
<i>Medium convenience</i>				
<ul style="list-style-type: none"> <li>– <i>Information</i>: moderate effort needed to obtain information about procedures, reasonably current</li> <li>– <i>Directions to drop-off site</i>: moderate effort to obtain</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Collection</i>: not curbside, but multiple locations within 8 km</li> <li>– <i>Collection</i>: not curbside, moderate traffic congestion and moderate controls</li> <li>– <i>Collection and drop-off</i>: accessible by public transport</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Opportunity</i>: open some nights and hours beyond standard business hours</li> <li>– <i>Opportunity</i>: open standard business hours only</li> </ul>	<ul style="list-style-type: none"> <li>– <i>EOL fee</i>: nominal</li> <li>– <i>Access</i>: minimal restrictions of use</li> <li>– <i>Options</i>: multiple, close to commercial area</li> <li>– <i>Security/safety</i>: moderately safe, secure, clean, and orderly</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Collection</i>: not curbside</li> <li>– <i>Processing/cleaning</i>: some effort required</li> <li>– <i>Sorting/segregation</i>: moderate required</li> <li>– <i>Material weight</i>: moderate</li> <li>– <i>Material volume</i>: moderate</li> <li>– <i>Collection containers</i>: some effort needed to find, some effort to access</li> <li>– <i>Paperwork</i>: minimal</li> <li>– <i>Staff interaction</i>: some necessary</li> <li>– <i>Staff assistance</i>: limited availability</li> </ul>
<i>Low convenience</i>				
<ul style="list-style-type: none"> <li>– <i>Information</i>: non-existent, out of date, or very difficult to obtain</li> <li>– <i>Directions to drop-off site</i>: difficult to obtain or not available</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Collection</i>: not curbside, one location only, 8 km or greater</li> <li>– <i>Collection</i>: Heavy traffic congestion and heavy controls</li> <li>– <i>Collection and drop-off</i>: not accessible by public transport</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Opportunity</i>: open on a quarterly basis</li> <li>– <i>Opportunity</i>: open on special or periodic basis only</li> </ul>	<ul style="list-style-type: none"> <li>– <i>EOL fee</i>: more than nominal</li> <li>– <i>Access</i>: more than minimal restrictions</li> <li>– <i>Options</i>: waste only</li> <li>– <i>Security/safety</i>: not safe, secure, clean, or orderly</li> <li>– <i>Secluded/isolated location</i>: not near commercial area</li> </ul>	<ul style="list-style-type: none"> <li>– <i>Processing/cleaning</i>: considerable effort required</li> <li>– <i>Segregation</i>: multilevel/ extensive required</li> <li>– <i>Paperwork</i>: more than minimal</li> <li>– <i>Collection containers</i>: difficult to find, difficult to access</li> <li>– <i>Material volume</i>: bulky</li> <li>– <i>Material weight</i>: heavy</li> <li>– <i>Staff interaction</i>: mandatory</li> <li>– <i>Staff assistance</i>: none available</li> </ul>

Given the prevalence of EPR/PS laws mandating convenience, examples of political jurisdictions adopting requirements for convenient collection systems in EPR/PS laws and regulations in the USA and Canada were examined. Based on the identification and categorization of the factors of convenience, comparing the examples of laws and regulation to the identified factors of convenience reveals insufficient efforts and results.

One purpose of this paper was to identify various categories and factors of convenience under an EPR/PS system sufficient to propose a performance matrix with the ordering of criteria of convenience to help solid waste managers, policymakers, and producers assess the convenience of a collection system. A proposed performance matrix table is presented in this paper; however, it is recognized that the subjectivity of the many factors is a weakness and that users of the table will be required to use personal judgment in examining a particular collection system. While important guidance is provided, codification of convenience into

laws and/or regulations presents significant challenges. Nonetheless, this paper presents a first major step toward developing a more ordered understanding and providing a useful tool to initiate a more systematic assessment of convenience and to advance the research of convenient collection in all aspects of waste management.

### Acknowledgements

I would like to thank the following individuals for their valuable assistance and suggestions - Gordon Lane and Abraham Dailey, Research Assistants at the University of Southern Maine; Carole Cifriño, Maine Department of Environmental Protection; and Rachel Bouvier, Department of Economics, University of Southern Maine. I would especially like to thank the anonymous peer reviewers who provided invaluable suggestions to improve the manuscript.

## References

- Abdelnaser, O., Mahmood, A., Read, A.D., 2011. A study of the motivation and de-motivation factors influencing the participation of people of Palau Pinang in recycling of solid wastes. *Journal of Solid Waste Technology and Management* 37 (2), 91–101.
- Ando, A.W., Gosselin, A.Y., 2005. Recycling in multifamily dwellings: does convenience matter? *Economic Inquiry* 43 (2), 426–438.
- Baksi, S., Long, N.V., 2009. Endogenous consumer participation and the recycling problem. *Australian Economic Papers* 48 (4), 281–295.
- Ball, R., Lawson, S.M., 1990. Public attitudes towards glass recycling in Scotland. *Waste Management and Research* 8, 177–192.
- Best, H., 2009. Structural and ideological determinants of household waste recycling: results from an empirical study in Cologne, Germany. *Nature and Culture* 4 (2), 167–190.
- Boldero, J., 1995. The prediction of household recycling of newspapers: the role of attitudes, intentions, and situational factors. *Journal of Applied Social Psychology* 25 (5), 440–462.
- Bouvier, R., Wagner, T.P., 2011. The influence of collection facility attributes on household collection rates of electronic waste: the case of televisions and computer monitors. *Resources, Conservation and Recycling* 55 (11), 1051–1059.
- Brooks, C.M., Kaufmann, P.J., Lichtenstien, D.R., 2004. Travel configuration on consumer trip-chained store choice. *Journal of Consumer Research* 31, 241–248.
- Brunner, J.A., Mason, J.L., 1968. The influence of driving time upon shopping center preference. *Journal of Marketing* 32, 57–61.
- Butler, J., Hooper, P., 2000. Elements determining the post-consumer waste recycling burden. *Journal of Environmental Planning and Management* 43 (3), 407–432.
- Calcott, P., Walls, M., 2005. Waste, recycling, and “design for environment”: roles for markets and policy instruments. *Resource and Energy Economics* 27, 287–305.
- Derksen, L., Gartrell, J., 1993. The social context of recycling. *American Sociological Review* 58 (3), 434–442.
- De Young, R., 1989. Exploring the difference between recyclers and non-recyclers: the role of information. *Journal of Environmental Systems* 18 (4), 341–351.
- Domina, T., Koch, K., 2001. Textile recycling, convenience, and the older adult. *Journal of Family and Consumer Sciences: From Research to Practice* 93 (5), 35–40.
- Domina, T., Koch, K., 2002. Convenience and frequency of recycling: implications for including textiles in curbside recycling programs. *Environment and Behavior* 34 (2), 216–238.
- Driedger, R.J., 2001. From cradle to grave: extended producer responsibility for household hazardous wastes in British Columbia. *Journal of Industrial Ecology* 5 (2), 89–102.
- Ebreo, A., Vining, J., 2000. Motives as predictors of the public's attitudes toward solid waste issues. *Environmental Management* 25 (2), 153–168.
- Everett, J.W., Peirce, J.J., 1993. Curbside recycling in the USA: convenience and mandatory participation. *Waste Management and Research* 11, 49–61.
- Ewing, G., 2001. Altruistic, egoistic, and normative effects on curbside recycling. *Environment and Behavior* 33 (6), 733–764.
- Gehrt, K.C., Yale, L.J., 1993. The dimensionality of the convenience phenomenon: a qualitative reexamination. *Journal of Business and Psychology* 8 (2), 163–180.
- González-Torre, P.L., Adenso-Díaz, B., 2005. Influence of distance on the motivation and frequency of household recycling. *Waste Management* 25, 15–23.
- Hansen, L.T., McMellen, C., Olson, L., Kaplowitz, M., Kerr, J., Thorp, L., 2008. Recycling attitudes and behaviors on a college campus: use of qualitative methodology in a mixed-methods study. *Journal of Ethnographic and Qualitative Research* 2, 173–182.
- Hornik, J., Cherian, J., Madansky, M., Narayana, C., 1995. Determinants of recycling behavior: a synthesis of research results. *Journal of Socio-Economics* 24 (1), 105–127.
- Hubbard, R., 1978. A review of selected elements conditioning consumer travel behavior. *Journal of Consumer Research* 5, 1–21.
- Jakus, P.M., Tiller, K.H., Park, W.M., 1997. Explaining rural households' participation in recycling. *Journal of Agricultural and Applied Economics* 29 (1), 141–148.
- Jenkins, R.R., Martinez, S.A., Palmer, K., Podolsky, M.J., 2003. The determinants of household recycling: a material-specific analysis of recycling program features and unit pricing. *Journal of Environmental Economics and Management* 45, 294–318.
- Judge, R., Becker, A., 1993. Motivating recycling: a marginal cost analysis. *Contemporary Economic Policy* 11 (3), 58–68.
- Knudsen, L., 2010. Electronic waste solutions: electronic waste collection days event and other initiatives. Indiana University Office of Sustainability. <[http://erefdn.org/index.php/whatsgoingon/bulletins/electronic\\_waste\\_issues\\_and\\_solutions/](http://erefdn.org/index.php/whatsgoingon/bulletins/electronic_waste_issues_and_solutions/)> (accessed 30.04.12).
- Lansana, F.M., 1992. Distinguishing potential recyclers from nonrecyclers: a basis for developing recycling strategies. *Journal of Environmental Education* 23 (2), 16–23.
- Lin, H.-Y., Tsai, Z.-P., Chen, G.-H., Kao, J.-J., 2011. A model for the implementation of a two-shift municipal solid waste and recyclable material collection plan that offers greater convenience to residents. *Journal of the Air and Waste Management Association* 61 (1), 55–62.
- Ludwig, T., Gray, T., Rowell, A., 1998. Increasing recycling in academic buildings: a systematic replication. *Journal of Applied Behavior Analysis* 31, 683–686.
- Margai, F.L., 1997. Analyzing changes in waste reduction behavior in a low-income urban community following a public outreach program. *Environment and Behavior* 29 (6), 769–792.
- Martin, M., Williams, I.D., Clark, M., 2006. Social, cultural and structural influences on household waste recycling: a case study. *Resources, Conservation and Recycling* 48, 357–395.
- Mayers, C.K., 2007. Strategic, financial, and design implications of extended producer responsibility in Europe: a producer case study. *Journal of Industrial Ecology* 11 (3), 113–131.
- McDonald, S., Oates, C., 2003. Reasons for non-participation in a kerbside recycling scheme. *Resources Conservation and Recycling* 39, 369–385.
- McKerlie, K., Knight, N., Thorpe, B., 2006. Advancing extended producer responsibility in Canada. *Journal of Cleaner Production* 14, 616–628.
- Nicol, S., Thompson, S., 2007. Policy options to reduce consumer waste to zero waste: comparing product stewardship and extended producer responsibility for refrigerator waste. *Waste Management and Research* 25, 227–233.
- Ongondo, F.O., Williams, I.D., 2011. Greening academia: use and disposal of mobile phones among university students. *Waste Management* 31 (7), 1617–1634.
- Peretz, J.H., Tonn, B.E., Folz, D.H., 2005. Explaining the performance of mature municipal solid waste recycling programs. *Journal of Environmental Planning and Management* 48 (5), 627–650.
- Perrin, D., Barton, J., 2001. Issues associated with transforming household attitudes and opinions into materials recovery: a review of two kerbside recycling schemes. *Resources, Conservation and Recycling* 33, 61–74.
- Pieters, R.G.M., 1991. Changing garbage disposal patterns of consumers: motivation, ability, and performance. *Journal of Public Policy and Marketing* 10 (2), 59–76.
- Product Policy Institute, 2012. EPR laws. <<http://www.productpolicy.org/content/epr-laws>> (verified 03.01.12).
- Reschovsky, J.D., Stone, S.E., 1994. Market incentives to encourage household waste recycling: paying for what you throw away. *Journal of Policy Analysis and Management* 13 (1), 120–139.
- Reid, D.H., Luyben, P.D., Rawers, R.J., Bailey, J.S., 1976. Newspaper recycling behavior: the effects of prompting and proximity of containers. *Environment and Behavior* 8 (2), 382–471.
- Saphores, J.M., Nixon, H., Ogunseitan, O.A., Shapiro, A.A., 2006. Household willingness to recycle electronic waste: an application to California. *Environment and Behavior* 38 (2), 183–208.
- Sidique, S.F., Lupi, F., Joshi, S.F., 2010. The effects of behavior and attitudes on drop-off recycling activities. *Resources, Conservation and Recycling* 54, 163–170.
- Speirs, D., Tucker, P., 2001. A profile of recyclers making special trips to recycle. *Journal of Environmental Management* 62 (2), 201–220.
- Vining, J., Ebreo, A., 1990. What makes a recycler? A comparison of recyclers and nonrecyclers. *Environment and Behavior* 22 (1), 55–73.
- Vining, J., Linn, N., Burdge, R., 1992. Why recycle? A comparison of recycling motivations in four communities. *Environmental Management* 16 (6), 785–797.
- Wagner, T.P., 2009. Shared responsibility for managing electronic waste: a case study of Maine, USA. *Waste Management* 29 (12), 3014–3021.
- Wagner, T.P., 2011. Compact fluorescent lights and the impact of convenience and knowledge on household recycling rates. *Waste Management* 31 (6), 1300–1306.
- Wagner, T., Arnold, P., 2008. A new model for solid waste management: an analysis of the Nova Scotia MSW strategy. *Journal of Cleaner Production* 16, 410–421.
- Yale, L., Venkatesh, A., 1986. Toward the construct of convenience in consumer research. *Advances in Consumer Research* 13, 403–408.



January 8, 2013

Mr. George MacDonald  
Maine Department of Environmental Protection  
Division of Sustainability  
17 State House Station  
Augusta, Maine 04333-0017

Dear Mr. MacDonald:

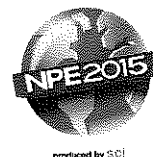
The Society of the Plastics Industry is a diverse trade association representing the entire plastics industry supply chain, including processors, machinery and equipment manufacturers, and raw materials suppliers. In Maine, the plastics industry directly employs 2,900 people. The average wage of an industry employee exceeds \$41,000 annually, excluding benefits. Together, plastics companies and those industries that depend on plastics contribute \$476 million in state and federal personal income taxes and \$514 million in payroll taxes.<sup>1</sup>

The purpose of this letter is to provide comments to the Department of Environmental Protection (DEP) on its report, "Implementing Product Stewardship in Maine - 2013" which was issued in December 2012 as required by L.D.1631 which was signed into law in March 2010. DEP will provide this report and all comments received to the legislature's Joint Standing Committee on Natural Resources by January 15, 2013. The Joint Standing Committee, after evaluating the merits of both DEP's report and the comments received, will then determine whether or not the recommendations put forth by DEP make good environmental and economic policy for Maine and whether to proceed with legislation implementing some or all of the recommendations.

We appreciate the efforts of the Department in compiling this report, but we do not support the legislative recommendation and rationale for seeking statutory authority for a comprehensive extended producer responsibility framework program as embodied in Appendix A of the report.

The recommended language is nebulous; it proposes a "one size fits all approach"; unfettered authority would be conferred to the DEP; costs are unknown, yet producers will be expected to pay all costs. Further, the recommendations are provisions previously vetted and ultimately rejected by the legislature and interested parties when the original bill, L.D. 1631, was considered. All parties came together at that time and agreed to the language that ultimately passed the legislature. We strongly urge the Joint Standing Committee on Natural Resources to reject this previously considered language as put forth in DEP's report.

<sup>1</sup> Sources: Bureau of Labor Statistics, Harris InfoSource, Moore Economics, Probe Economics;  
[www.plasticsdatasource.org](http://www.plasticsdatasource.org) 2012



As defined by the U.S. Environmental Protection Agency (EPA), the issue of product stewardship, not extended producer responsibility, is a product centered approach to environmental protection. It calls on those in the product lifecycle - manufacturers, retailers, users, and disposers - to share responsibility for reducing the environmental impacts of products.<sup>2</sup>

Product manufacturers have a responsibility to ensure that their product creates the least impact on human health and the environment while ensuring performance and being cost effective for the consumer. Consumers play a large role in driving the design and use of products, as products come to market in order to satisfy consumer demand. Stewardship responsibility for a product's life-cycle rests with not only the manufacturers but also distributors, retailers, consumers, waste management companies and local government.

Government mandated extended producer responsibility programs ignore market-driven recycling programs which are the most efficient means to collecting and reusing product materials at the end of a products useful life-cycle. Mandated programs create inefficiencies and stifle innovation and competitiveness versus market driven programs which are key to addressing end-of-life collection and job creation.

Again, we appreciate your efforts in compiling this report but do not support the recommendations made. We firmly believe that what is being proposed is not a product stewardship program but a mandated program that does not realize the cost and environmental benefit envisioned by a legitimate product stewardship program.

Thank you for the opportunity to comment and please contact me should you have any questions.

Sincerely,



Jane A. Adams  
Senior Director, State Government Affairs

cc: Senator James A. Boyle, Environment and Natural Resources Committee  
Senator Thomas B. Saviello, Environment and Natural Resources Committee  
Representative Joan W. Welsh, Environment and Natural Resources Committee  
Representative Bernard L. A. Ayotte, Environment and Natural Resources Committee

---

<sup>2</sup> U.S. Environmental Protection Agency, Wastes Program – Product Stewardship;  
<http://www.epa.gov/osw/partnerships/stewardship/>

Melissa Walsh Innes  
400 East Elm Street  
Yarmouth, ME 04097

January 14, 2013

George MacDonald  
Director, Division of Sustainability  
Maine Dept. of Environmental Protection  
17 State House Station  
Augusta, ME 04333-0017  
George.macdonald@maine.gov

RE: Comments to the 2013 report on Implementing Product Stewardship in Maine

Dear Mr. MacDonald:

Hello. My name is Melissa Walsh Innes, and I am pleased to write today to offer comments for the 2013 report on Implementing Product Stewardship in Maine. I had the honor of serving as a Maine State Representative from 2008-2012, and was a member of Maine's Joint Standing Committee on Environment and Natural Resources during my legislative tenure. I was the sponsor of the 2010 Maine Product Stewardship Law, and have spent the last two years speaking to audiences on the law and its implementation through this report process. I also work fulltime in the product stewardship/Extended Producer Responsibility field as the Outreach Director for Recycling Reinvented, a national nonprofit developing state legislation for packaging and printed paper.

I am especially pleased to learn through the report of the DEP creating a sustainability division, and hope that it will be an innovative and forward thinking space for furthering the protection of Maine's natural resources. As pleased as I am with the department's change and the stated desire to strengthen the framework law, I am disappointed that there is no new designation of new products for consideration, taking into account the myriad products under discussion and growing laws across the country, including carpet, paint, phone books, mattresses, and medical sharps. In reference to medical sharps, I am also disappointed that this was not addressed in the report, after the Environment and Natural Resources Committee last year held extensive discussions on this topic, killing a bill on the subject to give industry a chance to improve Maine consumers access to sharps disposal. I do hope that this year's committee will follow up on this important issue that

is not only environmental in nature, but is more of a public health concern as well that can easily be dealt with within a product stewardship program.

In the report, there is language that seeks to address the areas where the 2010 law “did not go far enough.” I cannot agree more, and hope that my comments and those of others with experience in this policy field will be considered strongly in adding to the proposed language attached to the report to more fully embrace the intent of the original legislation. As many will remember, the original language for the framework legislation was 22 pages long, and over many months and after multiple stakeholder negotiations, it was whittled down to the three pages that were passed, creating strong definitions and creating this report process. It was always my hope as the sponsor of the framework law that future attempts would be made to strengthen the law, thus in this respect I am offering the following suggestions of language and comments on the DEP’s proposed language. I have noted areas that I would suggest removing with ~~strikeouts~~, and suggested language and questions in **boldface red**.

### **Cell phones**

Before moving into the language and comments I have for the framework law, I would like to offer my strong opinion on the DEP “recommendation to repeal those provisions in 38 MRSA § 2143, that mandate collection of cellular telephones by any retailer that sells cellular telephones. The department is recommending repeal of this mandate due to the widespread availability of collection locations for cell phone recycling and their projected continued positive value as a market commodity.” **(There is no reason at this time to remove this law, especially if it is working well and not problematic to keep in our statutes. There is no guarantee that the market for discarded cell phones will remain positive, nor any guarantee that cell phone stores will remain open and available for cell phone drop off in the future.**

***I urge policymakers on Maine’s Joint Standing Committee on the Environment and Natural Resources to reject repeal of the cell phone recycling statute.***

### **Reporting requirements for Product Stewardship/EPR Programs**

**The department also makes the suggestion to change the statutes in 39 MRSA to create one annual reporting process for all stewardship programs, joined to the product stewardship report. I agree with the value and efficiency of this proposal, but do not agree with the proposed new deadline for achieving this goal. The stated recommendation is to move the reporting deadline for submission to the presiding legislative committee from January 15<sup>th</sup> to February 15<sup>th</sup>. The intent of the current January 15<sup>th</sup> deadline was to give the legislative committee time to read and review the report and any submitted comments, and then have time to consider any proposed/attached legislation with full hearings during their often short committee time.**



**Moving the deadline to February 15<sup>th</sup> would put further pressure on Maine's legislators to review the information in a timely fashion to make sound judgments in the middle of the session, as opposed to the slightly less busy time of January 15<sup>th</sup> at the beginning of the session when often times other legislation is not yet available for committee consideration yet.**

***I urge policymakers to support changing the statutes to fold all of the product stewardship reporting times into one report, yet reject the proposal to change the reporting deadline to the presiding committee from January 15<sup>th</sup> to February 15<sup>th</sup>.***

## **Comments on Appendix A: Proposed Framework Language**

Below is the proposed statutory language for the comprehensive framework law recommended in the report.

### **§ 1773. Product stewardship program**

1. All producers selling a product in the State that is a designated product or product category in accordance with section 1772 are responsible individually, collectively, or through a stewardship organization, for the implementation and financing of a product stewardship program to manage the product, in accordance with the priorities in 38 MRSA § 2101, at the end-of-life.

A. The program must provide a collection system that is convenient and adequate to serve the needs of covered entities in both rural and urban areas.

B. The program must provide for effective education and outreach to promote the use of the program and to ensure that collection options are understood by covered entities.

C. Conduct authorized. A producer or stewardship organization, including a producer's or stewardship organization's officers, members, employees and agents that organize product stewardship programs required under this chapter, is immune from liability for the conduct under state laws relating to antitrust, restraint of trade, unfair trade practices, and other regulation of trade or commerce only to the extent necessary to plan and implement the producer's or organization's chosen organized collection or recycling system.

**D. a description of how the producer or product stewardship agency will achieve a minimum recycling rate of 75 percent for the discarded products after four years of the commencement of an approved program plan, as well as proposed annual interim recycling goals for their products;**

**E. A producer responsibility program shall promote the program to retailers, wholesalers, collectors, and other interested parties, including owners of multi-family housing, special event organizers, and facility managers for public entities required to recycle.**



**F. A producer responsibility program shall prepare and/or finance education and outreach materials in cooperation with local government units and waste haulers that publicize the location and operation of collection locations and opportunities for recycling and disseminate them to interested parties. The program shall also utilize a website publicizing collection locations and program operations in cooperation with local government units and waste haulers.**

**2. Requirement for sale.** 180 days after a product stewardship plan is approved in accordance with subsection 8, no producer, wholesaler, or retailer may sell or offer for sale in the state the product or product category designated in accordance with section 1772, unless the product's producer participates individually, collectively or through a stewardship program in an approved stewardship plan.

**3. No fee.** A product stewardship program may not charge a fee at the time an unwanted product is delivered or collected for recycling or disposal.

**4. Costs.** Producers in a product stewardship program must finance the collection, transportation and reuse, recycling or disposition of the covered product or product categories, **including education and outreach to meet the program goals.**

**5. Requirement to submit a plan.** Within one year of a product or product category being designated in accordance with section 1772, a producer or stewardship organization must submit a stewardship plan to the department for approval.

A. The plan must include:

- (1) Identification and contact information for:
  - (a) The individual or entity submitting the plan;
  - (b) All producers participating in the product stewardship program;
  - (c) The brands covered by the program; and
  - (d) If utilizing a stewardship organization, a description of that organization which includes the tasks to be performed, and the organization from administration to management of that organization;
- (2) A description of the collection system including:
  - (a) The types of location sites or other collection services to be used;
  - (b) How all covered products will be collected in all counties of the State;
  - (c) How it will be convenient and adequate to serve the needs of all entities;
- (3) The names and locations of recyclers, processors and/or disposal facilities that may be used by the product stewardship program;
- (4) How the product or product components will be safely and securely transported, tracked and handled from collection through final disposition;

- (5) If possible, a description of the method to be used to reuse, deconstruct, or recycle the discarded product to ensure that the product components, are transformed or remanufactured to the extent feasible;
- (6) A description of how the convenience and adequacy of the collection program will be monitored and maintained;
- (7) A description of how the amount of product/product components collected, recycled, processed, reused, and/or disposed of will be measured.
- (8) A description of the education and outreach methods that will be used to encourage participation;
- (9) A description of how education and outreach methods will be evaluated;
- (10) ~~Any performance goals established by producers or a stewardship organization to show success of the program;~~ **A description of how the producer or a stewardship organization will meet the performance goals established by the department;** and
- (11) A description of how the program will be financed. If the program is financed by a per unit assessment paid by the producer to a stewardship organization, a plan for annual conduct of a third-party audit to ensure revenue from the assessment does not exceed the cost of implementing the product stewardship program is required.

**6. Plan amendments.** Any change to an approved product stewardship plan must be submitted to the department for review prior to the implementation of that change. If a change is not substantive, such as the addition or change to collection locations, or an additional producer joins the program, approval is not needed, but the entity running the program must inform the department of this change within 14 days of implementing such a change. Plan amendments shall be reviewed in accordance with subsection 8.

**7. Annual reporting.** After the first full year of the implementation of an approved product stewardship program the entity operating the program must submit to the department a report ~~by February 1<sup>st</sup>, and annually thereafter.~~ **(I would consider moving this to the end of the fiscal year for the producers, for their ease of reporting as well as giving the department time to review the report before including it in the next edition of the annual product stewardship report from the framework law – say have the report from industry due September 1<sup>st</sup> each year)** ~~The first full year of the program will be considered to begin January 1<sup>st</sup> and end December 31<sup>st</sup> of the same calendar year. The report must include, at a minimum:~~

- (A) The amount of product collected per county;
- (B) A description of the methods used to collect, transport and process the product;
- (C) Program evaluation including, ~~where possible,~~ diversion and recycling rates **toward the required goals established by the department**, including certificates of recycling or similar confirmations;
- (D) A description of the methods used for education and outreach efforts and an evaluation of the convenience of collection and the effectiveness of outreach and education;

(1) Every two years, the methodology and results of an assessment of the effectiveness of education and outreach efforts must be completed by a third party;

(E) If applicable, the report of the third party audit conducted to ensure that revenue collected from the assessment does not exceed implementation costs; and

(F) Any recommendations for changes to the program to improve convenience of collection, consumer education, and program evaluation **and efforts to reach or exceed the recycling goals as established by the department for that year.**

**8. Department review and approval.** Within ~~20~~ **30** business days after receipt of a proposed product stewardship plan, the department shall determine whether the plan complies with subsection 5. If approved, the department shall notify the submitter, in writing. **The department will need more time to review the plan as it may need extensive vetting, here are some examples of reporting time from other states regarding stewardship plans(note that none of them use the 20 days mark):**

- \*30 days - CA proposed framework law**
- \*60 days - RI framework & paint (both enacted)**
  - CA carpet (enacted);**
  - CT paint ("2 months" enacted)**
  - OR & MA framework (proposed)**
- \*90 days - CA paint (enacted)**
  - WA E-waste (enacted)**
  - MN framework (proposed)**
- \*120 days - WA paint (proposed)**

**No time frame specified - OR paint (enacted)**

If the department rejects a proposed stewardship plan, the department shall notify the applicant in writing stating the reason for rejecting the plan. A submitter whose plan is rejected must submit a revised plan to the department within 60 days of receiving a notice of rejection.

**9. Plan availability.** All approved stewardship plans by the agency shall be placed on the department's website within 30 days of approval.

**10. Proprietary information.** Any proprietary information submitted to the department through either the stewardship plan or reporting requirements, and identified as such by the submitter as proprietary is nonpublic data. **(What is the statutory definition of proprietary information? What is Maine statute definition of nonpublic data?)**

## Appendix B: Proposed Amendment to Accommodate Framework Recommendations and Other Statutory Amendments

The amended language below, moves the current 38 MRSA § 1773 to 38 MRSA § 1772(5), in order to accommodate the proposed framework language found at Appendix A. If the proposed framework is not adopted, these amendments are not necessary.

### §1772. Identification of candidate products; report

1. **Policy; report.** It is the policy of the State, consistent with its duty to protect the health, safety and welfare of its citizens, to promote product stewardship to support the State's solid waste management hierarchy under chapter 24. In furtherance of this policy, the department may collect information available in the public domain regarding products in the waste stream and assist the Legislature in designating products or product categories for product stewardship programs in accordance with this chapter.
2. By January February 15, and annually thereafter, the department ~~may~~ **shall** submit to the joint standing committee of the Legislature having jurisdiction over natural resources matters a report on products and product categories that when generated as waste may be appropriately managed under a product stewardship program. The report submitted under this section ~~may~~ **shall** include updates on the performance of existing product stewardship programs.

**2. Recommendations.** The report submitted under subsection 1 may include recommendations for establishing new product stewardship programs and changes to existing product stewardship programs. The department may identify a product or product category as a candidate for a product stewardship program if the department determines one or more of the following criteria are met:

- A. The product or product category is found to contain toxics that pose the risk of an adverse impact to the environment or public health and safety;
- B. A product stewardship program for the product will increase the recovery of materials for reuse and recycling;
- C. A product stewardship program will reduce the costs of waste management to local governments and taxpayers;
- D. There is success in collecting and processing similar products in programs in other states or countries; and
- E. Existing voluntary product stewardship programs for the product in the State are not effective in achieving the policy of this chapter.

**3. Draft legislation.** The report submitted under subsection 1 must include draft legislation if any is necessary to implement a product stewardship program requirement for the product or product category.

**4. Public comments.** At least 30 days before submitting the report under subsection 1 to the joint standing committee of the Legislature having jurisdiction over natural resources matters, the department shall post the report on its publicly accessible website. Within that

period of time, a person may submit to the department written comments regarding the report. The department shall submit all comments received to the committee with the report.

**5. §1773. Establishment of product stewardship programs.** Annually, after reviewing the report submitted by the department pursuant to section 1772, the joint standing committee of the Legislature having jurisdiction over natural resources matters may submit a bill to implement recommendations included in the department's report to establish new product stewardship programs or revise existing product stewardship programs.

### **Mercury-added thermostats**

#### ***(38 MRSA §1665-B. Mercury-added thermostats)***

The recycling rate for mercury-added thermostats remained flat in 2011. The Thermostat Recycling Corporation (TRC) continued to implement the program on behalf of manufacturers, with collection available at all HVAC wholesale locations and at voluntary retail locations. In 2011, TRC shifted its education & outreach focus away from Maine-specific content to develop a more generic “national” marketing campaign. In 2012, the DEP urged TRC to do more targeted education and outreach in Maine, noting that no thermostats had been collected from Washington, Somerset and Piscataquis Counties, and only one shipment was received from each of four other counties (Lincoln, Sagadahoc, Hancock and Waldo). Combined, these seven counties represent approximately 20% of Maine’s population. **Despite repeated requests, TRC has yet to submit an education and outreach plan, as required, for 2012. (What is the department doing to enforce the program requirements on education and outreach?)**

TRC reports the number of thermostats collected each quarter to Maine DEP; quarterly collection numbers increase after **DEP staff conduct field visits to provide technical assistance to collection sites.**

### **Mercury-added lamps**

The department will provide an update on mercury-added lamp recycling rates, as required by 38 MRSA § 1672(4)(E), at a later date. **(What is the projected date? Can DEP discuss expected results?)**

[Recipient Name]

January 14, 2013

Page 9

\* \* \* \* \*

I thank you for the opportunity to offer these comments and the included suggested language to further strengthen the existing product stewardship framework law. I am available to discuss this with interested parties, and request to be notified of legislative committee meetings that will review the 2013 report and take public comments as well.

Sincerely,

A handwritten signature in black ink that reads "Melissa Walsh Innes". The signature is written in a cursive, flowing style.

The Honorable Melissa Walsh Innes  
Yarmouth, Maine



4361 Keystone Ave. • Culver City, CA 90232  
Telephone (310) 559-7451 • Fax (310) 839-1142  
[www.container-recycling.org](http://www.container-recycling.org)  
[www.bottlebill.org](http://www.bottlebill.org)

January 14, 2013

George MacDonald  
Maine DEP  
Division of Sustainability  
17 State House Station  
Augusta, ME 04333-0017

Dear Mr. MacDonald:

Thank you for inviting the public to review and comment on the Department's Report to the Joint Standing Committee on Environment and Natural Resources: Implementing Product Stewardship in Maine.

The Container Recycling Institute would like to commend the Department on preparing a thoughtful and comprehensive proposal to standardize the EPR framework language in order to incorporate additional products and product categories going forward. Maine's impressive list of EPR programs is a tribute to your ongoing commitment to product stewardship and responsible materials management.

Maine has a long history of product stewardship. The Department itself defines product stewardship as

*...producer's taking responsibility for managing and reducing the life cycle impacts of the producer's product, from product design to end-of-life management...*

*Product stewardship, which also may be referred to as "extended producer responsibility," shifts the cost of the end-of-life management of products from municipalities and taxpayers to producers and the consumers who purchase the products that are part of the program*

It was certainly these objectives that the legislature had in mind when they enacted Maine's container deposit law in 1976. This groundbreaking law predates the development of EPR terminology and, in fact, you will be pleased to know that container deposit laws were an inspiration to Thomas Lindhqvist, the professor who coined the term Extended Producer Responsibility in 1990<sup>1</sup>.

The Bottle Bill, as originally enacted in 1976, requires deposits on beer, soft drinks, mineral water and wine coolers. Several changes have been implemented since. The law was expanded in 1989 to include wine, liquor, water and non-alcoholic carbonated or non-carbonated drinks. To prevent out-of-state redemption fraud, rules were added in 2009, requiring people wishing to redeem more than 2,500 beverage containers at a time to provide their name, license plate number, and address each time they return containers in bulk, with exceptions made for nonprofit organizations. Other changes made at this time include a limit on the number of redemption centers in a municipality, based on population, and a requirement for dealers or redemption centers to accept plastic wrap used for beverage containers.

---

<sup>1</sup> Thomas Lindhqvist & Karl Lidgren, "Models for Extended Producer Responsibility," in Sweden, Oct 1990.



The program's 90% recycling rate<sup>2</sup> for beverage containers far outperforms Maine's average recycling rate of 38.7% for other recyclable materials. According to a report prepared by Planning Decisions in 2011, 753,307,153 beverage containers were redeemed in 2010<sup>3</sup>. Similarly, in its 2008 Beverage Market Data Analysis, CRI estimated that 804,000,000 containers were returned in 2006, or approximately 55,072 tons<sup>4</sup>. If this material was included in Maine's currently reported recycling numbers, this would provide a boost to the state's overall recycling rate.

Using data compiled by Maine's State Planning office in 2012<sup>5</sup>:

Recycled Material (Maine definition, CDD included)	Municipal Solid Waste (Maine definition, CDD included)	Recycling Rate
665,315	1,722,160	38.7%

Adding 55,072 tons of redeemed beverage containers to both the numerator and the denominator:

Recycled Material	Municipal Solid Waste	Recycling Rate
720,387	1,777,232	40.5%

Similarly, if 55,072 tons of redeemed beverage containers were added to the 234,797 tons of "municipal/public efforts" recycling tonnage for 2010, that would increase the municipal/public efforts recycling tonnage by 23%.

CRI would like to make the following recommendations to the report:

#### **Report introduction:**

CRI agrees with the Department on the intent of the report to increase consistency and efficiency in implementing future product stewardship laws by adopting the proposed framework. We would like to see the container deposit program included as one of *six* product-specific laws enacted from 1976 – 2009, adding to the listed products:

- Beverage containers (MRS Title 32, Chapter 28, §§1861-1873)

#### **Appendix C:**

We recommend that the beverage container program be included in Appendix C on existing program updates.

#### **Annual reporting:**

The report provisions of the existing beverage container deposit law do not include report requirements. In contrast, the laws in California, Hawaii and many Canadian provinces do require annual reports on several program parameters. Please refer to the [bottlebill.org](http://bottlebill.org) website for examples of these reports.

#### **Funding of Government Administration of Beverage Container Program:**

Many product stewardship programs charge a nominal fee to stewards to pay for government administration of their programs. Maine may want to consider such a funding mechanism to pay for administration of the beverage container program.

<sup>2</sup> Natural Resources Council of Maine, "Product Stewardship A Success for Maine," [http://www.nrcm.org/documents/bottle\\_bill\\_case\\_study.pdf](http://www.nrcm.org/documents/bottle_bill_case_study.pdf)

<sup>3</sup> Planning Decisions, "Interim Analysis of the Operating Costs of Proposed Changes to Maine's Beverage Redemption Law," April, 15, 2011

<sup>4</sup> Container Recycling Institute, "Beverage Market Data Analysis 2008," <http://www.container-recycling.org/index.php/publications/beverage-market-data-analysis>

<sup>5</sup> Maine State Planning Office, "Solid Waste Generation and Disposal Capacity Report," January 2012



We sincerely appreciate the opportunity to provide input on the important work the Department is doing to promote Extended Producer Responsibility. We would be pleased to answer any questions you may have on our comments.

Sincerely,

Susan V. Collins,  
President  
CONTAINER RECYCLING INSTITUTE

**From:** [MacDonald, George](#)  
**To:** [Cifrino, Carole A](#)  
**Subject:** FW: A note of explanation  
**Date:** Tuesday, January 15, 2013 9:21:59 AM

---

George M. MacDonald  
Sustainability Unit Director  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017

Tel: (207) 287-2870  
Fax: (207) 287-2814

---

**From:** Susan Collins [mailto:scollins@container-recycling.org]  
**Sent:** Monday, January 14, 2013 3:57 PM  
**To:** MacDonald, George  
**Subject:** A note of explanation

George,

Since I don't think we've talked about the beverage container recycling program data for Maine, I'd like to explain some of my assumptions.

I read the annual recycling rate report from the Maine state Planning Office in 2011, and discussed the data briefly with Sam Morris by telephone in May 2011. Through those discussions, we both determined that the official recycling rates for the State did not include the bottle bill material. The container deposit materials typically don't go to a MRF — they require very little processing, and often go through the bottlers' distribution centers, where they are baled and shipped to market. That means they aren't picked up — data wise — in the call for data for the state's recycling rate.

Again, if you have any questions on this, please don't hesitate to contact me.

Regards,  
Susan

~~~

Susan V. Collins  
President

**Container Recycling Institute**

Celebrating 20 Years of Recycling Research, Education and Advocacy (1991-2011)

office (310) 559-7451

[www.container-recycling.org](http://www.container-recycling.org) and [www.bottlebill.org](http://www.bottlebill.org)

Join our fan page on Facebook!

<http://www.facebook.com/pages/Container-Recycling-Institute/118579123882>

January 14, 2013

George MacDonald  
Maine DEP  
Division of Sustainability  
17 State House Station  
Augusta, Maine 04333-0017

Subject: Comments on the report to the Joint Standing Committee on Environment and Natural Resources entitled "Implementing Product Stewardship in Maine"

Dear Mr. MacDonald:

This letter contains Thermostat Recycling Corporation's comments on the Maine Department of Environmental Protection's report to the Joint Standing Committee on Environment and Natural Resources entitled "Implementing Product Stewardship in Maine," which was published pursuant to 38 MRSA § 1772. We appreciate the opportunity to comment.

TRC is a not-for-profit organization founded voluntarily in 1998 by Honeywell, White Rodgers and General Electric to ensure the proper recovery of waste mercury thermostats. TRC has been recovering waste mercury thermostats at no cost to Maine residents since 2001 and through its efforts TRC has diverted over 36,000 mercury thermostats from landfills and waste to energy facilities.

We were surprised by the comments on the program. Unfortunately, there still seems to be some fundamental misunderstandings about the program and manufacturers' obligations in Maine.

The report indicated that, "in 2011 TRC shifted its education & outreach focus away from Maine-specific content to develop a more generic 'national' marketing campaign." This is not true. The truth is that TRC's marketing efforts have evolved and expanded over the last four years and while they do differ from those prescribed by Department staff in the past there has been no retrenchment of effort as implied in the report.

In fact, in 2011 TRC expanded the promotion of thermostat recycling in Maine through the use of social media (Google and Facebook advertising), targeted paid advertising to the HVAC trade channel, and direct mail to Maine HVAC contracting businesses.

George MacDonald

January 14, 2013

Page 2

The Department's concerns regarding returns from some of Maine's rural counties are also unfounded. Just because TRC did not collect thermostats from those counties doesn't mean residents of those communities are not recycling. Rather, it is a reflection of where those residents conduct their commerce (particularly contractors, the primary generators of waste thermostats). For instance, there are no HVAC wholesale distributors in Washington or Somerset counties. Contractors bring their waste mercury thermostats to Bangor, Waterville, or Ellsworth where the distributors are located. The fact that TRC enjoyed returns from Aroostook County further validates our point. If TRC's marketing to rural Maine is ineffective, then why does the program see returns from this county, but not others?

We are also very troubled by the Department's statement the program has not provided all "required" reports. Again, this is not true. TRC has submitted all required reports in accordance with Maine law.

In fact TRC, has gone well beyond what is required by law in providing information on its marketing and outreach strategies in Maine and elsewhere. On May 17, I met personally with Mr. Ron Dyer and other Department staff for over three hours in Augusta to review long-standing operational issues, and marketing activities. Additional correspondence was exchanged and unfortunately, likely due to Mr. Dyer's departure from the Department, a planned follow-up meeting never occurred. We note in our June 15, 2012 correspondence to Mr. Dyer, our specific request to include a discussion on marketing and outreach in the follow-up meeting.

We believe any issues related to marketing and promotional efforts are simply a proxy for control over the direction and tactics of the program. There are some within the Department that believe their tactics are superior to those chosen by the program. It is our firm belief the program is best positioned to determine appropriate and necessary marketing tactics to achieve manufacturer's objectives in Maine. Program staff and its consultants have a deep understanding of the channel, market players, and developed messages and tactics that are effective and appropriate.

We conclude by suggesting that if the Department continues to have concerns regarding the program's marketing tactics we welcome an opportunity to continue the program review initiated by Mr. Dyer. I am available to travel to Augusta to meet in person or such a review can be conducted via conference call.

If you have further questions or would like to discuss scheduling a meeting, please feel free to contact me via phone at 571-447-4315 or via email at [mark.tibbetts@thermostat-recycle.org](mailto:mark.tibbetts@thermostat-recycle.org).

Sincere Regards,



Mark Tibbetts  
Executive Director



January 14, 2013

Scott Cassel  
**Chief Executive Officer/Founder**

**PSI Board of Directors**

Dave Galvin, **President**  
*Local Hazardous Waste Management  
Program, King County, WA*

Jennifer Holliday, **Vice President**  
*Chittenden County  
Solid Waste District, VT*

Theresa Stiner, **Treasurer**  
*IA Department of Natural Resources*

Tom Metzner, **Clerk**  
*CT Department of Energy and  
Environmental Protection*

Abby Boudouris  
*OR Department of Environmental  
Quality*

Marilynn Cruz-Aponte  
*City of Hartford, CT*

Steve Danahy  
*NE Department of Environmental  
Quality*

Becky Jayne  
*IL Environmental Protection Agency*

Scott Klag  
*Metro Regional Government, OR*

Cynthia Moore  
*WI Department of Natural Resources*

Peter Pettit  
*NYS Department of  
Environmental Conservation*

George MacDonald  
Maine DEP  
Division of Sustainability  
17 State House Station  
Augusta, Maine 04333-0017

**SUBJECT:** ME DEP report "Implementing Product Stewardship in Maine" (in relation to the product stewardship "framework" law found at 38 MRSA § 1772-1775)

Dear Mr. MacDonald:

On behalf of the Product Stewardship Institute, Inc. (PSI), I want to commend you and your staff for developing a strong report that seeks greater consistency regarding existing and potential future extended producer responsibility (EPR) legislation. PSI supports the Maine Department of Environmental Protection's (DEP's) goal of greater program efficiency and better defined roles, which will result in greater environmental protection at lower cost.

There are a few comments I would like to suggest to further strengthen this report: (1) Provide DEP with legislative authority to set performance goals and a more specific definition for "convenience;" (2) Cover DEP administrative costs; and (3) Continue cell phone retailer take back unless data show it is not necessary.

- (1) **Provide DEP with authority to set performance goals and a more specific definition for "convenience":** PSI believes that a basic function of government is to decide the measure for a successful industry-run program, and then to require verification of this success. Although it is wise to ask industry to propose performance goals (e.g., the measure by which it will be evaluated), it should be DEP's role to decide the actual goals. DEP should also be given authority to establish a more specific definition of "convenience," and to determine whether that definition should be consistent or different based on the product category. This authority should be provided in Maine's framework law, and should include the option to require third party verification of performance goals and convenience standards.
- (2) **Cover DEP administrative costs:** Product stewardship programs reduce the role of government by allowing industry the flexibility to decide how their programs should be run to meet the performance targets. Even so, there

*Product Stewardship Institute, Inc. • 29 Stanhope Street • 3rd Floor • Boston, MA 02116  
Telephone: (617) 236-4855 • Fax: (617) 236-4766 • [www.productstewardship.us](http://www.productstewardship.us)*

 *Non-chlorine Bleached / 100% Post-Consumer Recycled Paper / Soy Ink*

*The Product Stewardship Institute is an equal opportunity provider and employer.*

are costs for government, regarding program oversight, enforcement, and evaluation. The cost of these functions should be included as a cost of doing business and covered by each stewardship organization. DEP might want to consider the following language in California's paint stewardship law:

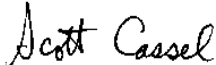
*The department shall impose fees in an amount that is sufficient to cover the department's full costs of administering and enforcing this chapter, including any program development costs or regulatory costs incurred by the department prior to the submittal of the stewardship plans. Fee revenues collected under this section shall only be used to administer and enforce this chapter.*

**(3) Continue cell phone retailer take back unless data show it is not necessary:** Although the markets for cell phone recycling might have strengthened in the past few years, there is no guarantee that retailers will continue to participate as cell phone collection sites, or that cell phones will continue to be collected as conveniently as they are now under the current law. PSI would like to suggest that the Department compare its program results with other programs that do not have the retail requirement. If the same results can be achieved without the retail collection requirement and retailers find mandatory collection to be onerous, PSI might then reach the same conclusion as the DEP.

PSI appreciates the opportunity to comment on this report. We would like to encourage the Department to work with other state officials in the region on the development of a regional product stewardship initiative. PSI convened a group of over 50 state and local officials, and other key stakeholders in the northeast region last month to prioritize products for EPR legislation and to share information about current programs. The region identified the following products as top legislative priorities: paint; packaging and printed materials; pesticides and fertilizers; mattresses; carpet; and fluorescent lamps. PSI has experience working on nearly 20 product categories. This regional group might offer support to the Department as it considers ways to make its materials management program more effective and efficient, and this group would also benefit from the Department's significant product management experience.

Please feel free to contact me at (617) 236-4822 if I can be of assistance.

Sincerely,



Scott Cassel  
Chief Executive Officer

#### **About the Product Stewardship Institute (PSI)**

The Product Stewardship Institute (PSI) is a national nonprofit organization dedicated to reducing the health and environmental impacts of consumer products. PSI brings together key stakeholders with conflicting interests to develop product end-of-life solutions in a collaborative manner, with a focus on having manufacturers assume primary financial and managerial responsibility. With a robust membership base of 47 state governments and over 200 local governments, as well as partnerships with more than 90 companies, organizations, universities, and non-U.S. governments, PSI advances both voluntary programs and legislation to promote industry-led product stewardship initiatives. For more information, visit PSI online at [www.productstewardship.us](http://www.productstewardship.us).